

ATHLETIC



Vol. XIII, No. 2 October, 1932

Blocking by Linemen

Tom Lieb

Some Ideas on Football
Generalship

Carl Snavely

Will the New Rules Speed
up Basketball?

Ward (Piggy) Lambert

JOURNAL

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The ATHLETIC JOURNAL

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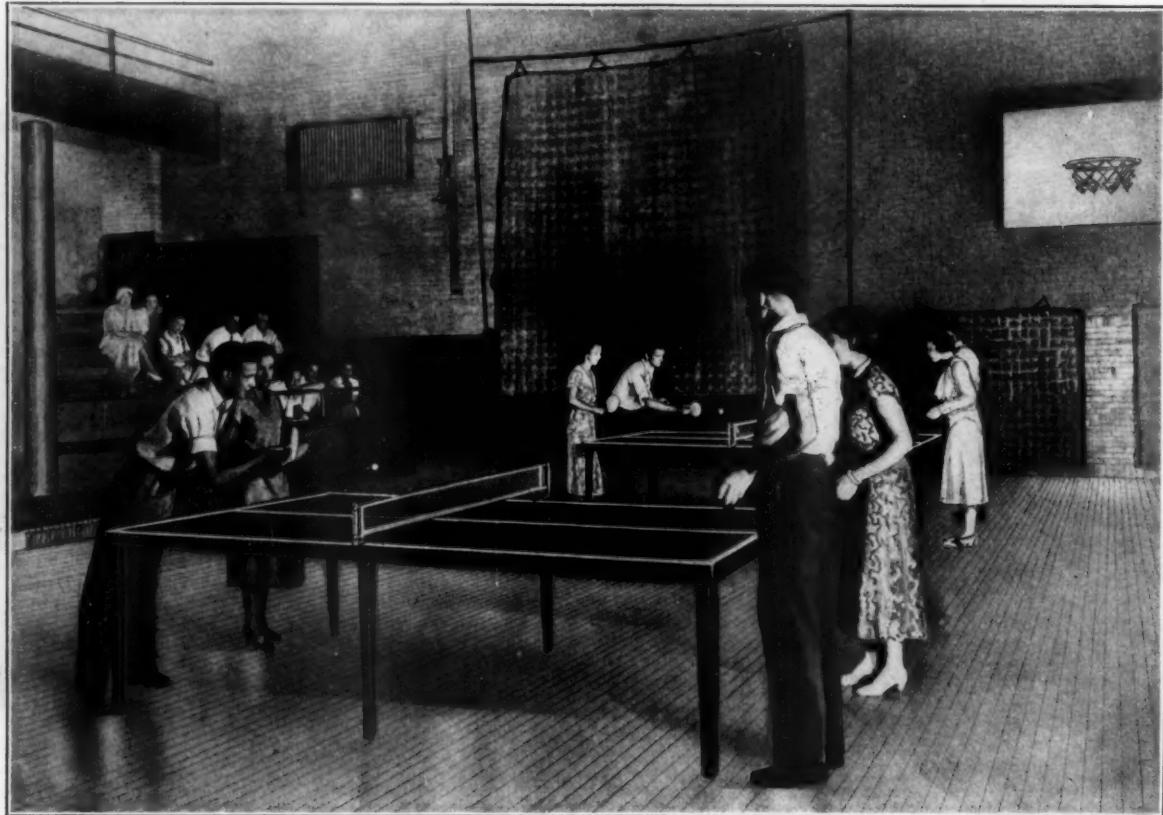


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THE essence of offense is blocking; hence it must be performed with efficiency and effectiveness. No man, no matter how good he may be at one phase of the game, should be allowed to play regularly on a team unless he is a good blocker and is willing to make a distinct effort to interfere for someone else.

Interfering and blocking are done in many different ways, depending upon the situation, the type of play and the type of blocker and opponent. On each play, linemen will either be cleaning up the secondary, covering, or protecting the passage of the ball-carrier. Hence the different types of blocking. Good blocking is scientific and an art. Its effectiveness depends on the power in the blocker's legs, his courage, accuracy of timing and judgment of distance. I shall enumerate several blocks that are used especially by linemen.

THE SHOULDER BLOCK—A very large per cent of the lineman's blocking is done with the straight shoulder block. The lineman in his natural position, without giving away his intent by leaning or looking toward his opponent, with his tail low, legs well apart, head up, eyes open, should gather as much drive as possible for the time when the ball is snapped. Then with the aid of short, digging steps he should drive into his opponent as hard and viciously as he can, throwing his head to the outside of the offensive player and with his feet wide apart and tail low, with short, digging steps, drive him back, gradually raising his head and shoulders with a bull neck.

After he has made a quick head duck to avoid a blow from the defensive man's hands, the first action is forward and then upward in order that he may get to his opponent as soon as possible and then lift him out of his position. He should hit him about midway between the knees and the hips with all the impact he can gather. He should lap the head in tight to his thigh and not be afraid to thump him with the elbow on the inside. He must remember to keep his head up and his legs always driving forward. He must not lunge and fall on the ground, as he is then immediately out of the play. The hand on the outside should be extended and on the ground to prevent the defensive player from pushing him to the ground. If he misses him with the shoulder, he should catch him with his knee, keeping after him. The block is used in quick opening plays, while the shoulder to shoulder charge is used in somewhat of a delayed opening.

THE PIVOT SHOULDER BLOCK—This block is much the same as the straight shoulder block, except that after the lineman has started his opponent backward, he shortens the step or pivot on one foot, advancing the other faster, pivoting him out of position. This block is used in opening holes and, after the pivot position is once attained, men are easily held out of play. This block is

often used after the man has started forward. Then, using the pivoting motion, the lineman can take advantage of his opponent's momentum and widen the opening.

THE LONG BODY BLOCK—This block, like the other, is started from the regular offensive position with the head up, tail low, eyes straight to the front. This block is principally used by a tackle and end on a wide guard or tackle and is the most effective, yet easy block to use. The lineman should dive across in the path of his opponent as low as possible in order to avoid contact with his hands, landing on all fours (hands and feet), immediately rising up under his arms, throwing his tail in his face and encircling him with the body, slapping him with the hip and when possible hooking a knee behind his. The offensive player must develop sensitiveness all along his side and thigh so that, without watching his opponent, he can sense his position and contact, being ever mobile to go forward or backward in order to increase his efficiency in the block.

This block is used for protecting on passes and kicks. It is often called the "high back block" because in performing the block effectively the body is raised. In so doing, the lineman limits the defensive tackler's possibility of reaching over and making a tackle outside of him. The block properly applied requires little expenditure of energy, yet is the most effective known. It is a true block, though, and not a charge. The block, as I term it, is used to obstruct an opponent and not open a hole. The offensive man initiates the movement before the opponent has a chance to move toward the ball-carrier.

THE INDIAN BLOCK—This block is used in protecting forward passes and kicks and may be an addition to the long body block. This Indian block is most used from a higher stance and not started low close to the ground like the long body block. The offensive man waits to make the defensive man show his intent of direction first. Then after he has committed himself, he slaps him with his hip, with shoulder and side in his stomach and,

By
Tom
Lieb



(Above)

Straight Shoulder Block (Inside). Note use of the arms on inside. The tail is low and the feet well spread.

(Right)

Running dive with a roll. Note the follow-through of the man on the ground and the effect it has had on his opponent. This man suddenly turned his back to the blocker causing this picture to be illegal, due to clipping from behind but it demonstrates the effectiveness of the block.



(Below)

Straight Shoulder Block (Outside). Note the head is up against the thigh, the outside arm on the ground to prevent being pushed down or slipping off. The feet are well spread.



staying high, obstructs him as much as possible. If he tries to slip off to the rear, the offensive lineman shifts his weight to a forward foot and in a backward kicking motion catches him with the other leg, slapping him with the back at the same time.

This leg action may also be used from the long body block as a last resort if the opponent has been missed. Whipping the legs around in this manner is very effective in cutting down an opponent after he has once slipped away.

REVERSE PIVOT BLOCK—This block is not to be used often, but is valuable to the extent that it gives an end a variation in his attack upon the defensive tackle. The end may use this block principally upon a waiting tackle and goes about it from his natural position, merely pivoting on his outside foot and trying to sit on the lap of the defensive tackle, backing up into him with short, digging steps, also extending his elbows to obstruct him as much as possible. The same

actions in blocking are used by a basketball player who pivots and blocks a man off. The element of surprise and the contact with the back of the blocker delay the defensive player.

RUNNING DIVE WITH ROLL—This block is used by every member of the team, but principally upon a man in the open. In returning a kick-off or punt and in cleaning out the secondary, men must necessarily use a fast and effective block. As the phrase implies, a running dive with roll means that the body is thrown horizontally at an opponent very much as in making a flying tackle, except that the arms are not used to grasp the defensive man. The blocker merely hits him with his side and hips and keeps on rolling.

This dive is effective only when properly timed and the man is hit with tremendous leg drive so that he is cut down like grass behind the sickle. We use this block, called the side-

swipe, very low, around the ankles, when attacking a man from the side. We use a medium high block about the knees or a little above from the front and oftentimes shoulder high or neck high when running at a man who is standing still. Care must be taken in using this block that the man does not turn his back just before the dive, making the block illegal, as this would constitute clipping from behind, which carries a severe penalty. In offensive plays this block is used sometimes by the guard in leading interference and by the man com-

ing from the weak side to cut off the secondary.

In attacking a man in the open with this block, the interferer should not give away his intent as to what he is going to do, but should run close to the man and duck quickly, cutting his feet out from under him before he realizes what has happened. Men must experiment in the timing of this block so that they don't dive too far in front of the opponent, allowing him merely to step over them. This block is also called the Indian block because it involves the

throwing of the feet high while rolling and was used effectively by the Carlisle Indians.

Requests have come in from subscribers for an arrangement of illustrations and reading so that the illustrations may be torn from the book and posted in the gymnasium. As this arrangement would detract from the artistic make-up of the magazine, the editor prefers to send free of charge additional copies of the illustrations upon request of the readers. Copies of page 8 may be secured at this time.

Some Ideas on Football Generalship

By Carl Snavely

Football Coach, Bucknell University

MOST FOOTBALL coaches agree that it is wise to give the team only a few fundamental plays to use in the warm-up games at the beginning of the season and that additional plays should be added and shown as the season proceeds and the importance of the games increases. I suppose this was the best policy a few years back when a team spent over half the season working up to one or two key games. But times have changed, and I am inclined to question the wisdom of such a policy now when every good team is fighting tooth and nail in almost every contest of the season after the second or third game. From my own experience I have become convinced that the complete reversal of this procedure is the better plan. In other words, I prefer to try out all the plays we can in the first couple of games and to plan our future strategy on the results.

Such a method presupposes the holding of spring practice, or the ability to get the team together reasonably early in the fall. It also necessitates a departure from the traditional program of getting the men into shape before beginning to practice football. We do not spend much time on conditioning drills at the beginning of the season. I prefer to condition the men by learning plays. I find that the players respond more cheerfully to such a program and that the physical results are fully as good.

Of course, some of the plays we use in the early games are not perfectly learned. But if there is any time during the season when poorly mastered plays can be used without embarrassment it should be in the first game or two. It is often costly, however, to experiment with new plays in the more important games. And if anything will inspire a man to master his assignment on a play, it is the experience of having blundered on it in one of the opening games.

Naturally such a policy exposes the entire offense to the sharp scrutiny of op-

posing scouts, and on this score alone it will be rejected by many coaches. However, I am convinced that to obscure the vision of a smart scout by means of a luxurious foliage of camouflage is easier and more feasible than to keep him in ignorance by showing him only a few of the basic maneuvers. In these early games our team has the ball a relatively large part of the time and if we are showing only our basic plays the scouts are enjoying ample time and opportunity to study the individual assignments as well as the strong and weak points, after which they can plan the best possible defense against these key plays. If opposing teams stop the key plays they probably will stop all the rest.

I also have found that quarterbacks and other players are either afraid to use new plays in the big games or they forget them. The practice of using three or four plays in the preliminary games and then ordering the boys to open up everything in the big games has been an absolute failure in my experience. They just don't do it.

Therefore, I prefer to use them all in the early games and eliminate for the BIG games. This is a logical procedure because we use fewer plays, and the ones we do use should be of proved value. The only way to prove the value of a play is to test it in an actual game in the hands of the team which has to use it. Its strength in previous seasons is not an accurate indication of what this year's team can do with it.

The process of elimination is not haphazard. A careful record of the gain, loss, average gain, consistency, what opponent makes the tackle and, as far as possible, the reasons for every failure is kept or deduced in connection with every play by assistants and players on the bench. Plays which seem to have fundamental weaknesses are dropped. Others are dropped if they disclose the fact that the men available are inadequate to any of the as-

signments upon which their success depends. If a play will not work against weak opposition it is useless to expect it to succeed against stronger opponents.

The plays which are retained are divided into the three following classes:

1. Working Plays—Among these we include the most consistent gainers, even though some of them may be good for only very short gains. Most line backs and power plays will be in this class.
2. Safe Gambles—This class includes those plays which occasionally may lose ground or which, if they work, may result in long gains. But it does not include plays which endanger the loss of the ball as a result of intricate handling or passing. Most deceptive plays and some long forward passes will belong in this class.
3. Risky Gambles—In these, possession of the ball is gambled against the hope of long gains. Most of the passes will be included in this group.

Changes in the classification of various plays are made from week to week, depending upon reports of scouts concerning the strong and weak points of different opponents and the effectiveness of the plays in past games. Before every game the field generals are carefully drilled in the classification of each play.

The selection of the plays then is governed by the following four definite and specific rules:

1. Use working plays after having made a sufficient gain on the preceding down to make a first down attainable by use of short sure gains—with the following two exceptions: (A) Try forward pass on second down if we have gained 8 or 9 yards on the first down, and (B) Do not aim to make a first down between our opponents' 15- and 7-yard lines.
2. After penalty or failure to gain use gambling plays.

3. Between the opponents' 15- and 7-yard lines gamble on first down.
4. Inside our own 40-yard line use safe gambles on first down and never use risky gambles unless we are behind.

Within these restrictions I encourage the field generals to mix things up as much as possible. The usual instructions in regard to punting and out of bounds plays are added, of course. I know that this is a rather conservative system and occasionally I advise a quarterback who seems to have imagination to deviate from the rules when he feels that he can execute a daring and brilliant piece of strategy. The last time I made this suggestion it cost us the

football game, or rather it turned a sure victory into a dismal and gloomy tie.

One of our most effective methods of drilling the quarterbacks in the use of these directions is by what we call a "strategy game." On a piece of cardboard we have a miniature football field marked off on which the position of the ball is represented by a coin or button. Two quarterbacks, or possibly two teams of consulting quarterbacks, select the plays for an imaginary game, and the coach, acting as judge and referee, awards gains or losses on each play, according to his estimate of the wisdom of the selection. At first we play such games without any allowance for weather conditions, but eventually we introduce

imaginary winds, wet grounds, unequal kicking ability and similar factors.

The average quarterback, and I always consider myself lucky if I have an average one, can not be depended upon to do much original thinking, or to recall a long, complicated and intricate list of instructions in the heat of battle. When thousands of rabid fans are yelling, when opponents are pommeling him, and his team mates are nervous and harassed, four or five definite and specific rules, which he has learned so well that they have become deep-seated behavior patterns, form a solid, sound and welcome mooring for him in the stress and storm of the conflict.

Symposium on College Athletics

Returning Punts

By R. V. Borleske,

Football Coach, Whitman College

I CONSIDER the returning of punts a very important phase of football. Possibly I give too much emphasis to it because it played such a prominent part in Whitman's football history during the last two years I was in college, and also because it has continued to play an equally important part during the seventeen-year period I have been coaching here. It has always held a commanding place in our offensive tactics and very often it has likewise proved a most effective defensive weapon.

In another way it has assumed a most important place also; namely, from a spectator's standpoint. More and more all of us have found it necessary to "play up to the crowds," and I frankly believe that Whitman's spectacular return of punts over a period of years has furnished more thrills than any other type of play. In no place else in football does the brilliant open field runner have so much opportunity to use his ability. Here, change of pace, speed, side-stepping, shiftiness, stiff-arming, drive, elusiveness and, above all, coolness and good judgment are called into play.

To my mind, the real test of an open-field runner is his ability to run back kicks. Almost entirely, he must depend upon his own resources. In a few cases, special plays are worked up, but, in most cases, the halfbacks attempt to stop the on-rushing ends, and then it is left to the individual ingenuity and ability of the receiver to advance the ball. Usually, it is impossible for the coach to give definite instructions as to what the receiver shall do. Too many varying situations arise which the

receiver must immediately grasp and react to accordingly. It may be necessary for him to drive straight ahead, to run to the left or to the right, to hesitate and then, by means of clever foot-work or other elusive tactics, wiggle away from his opponents. Always, however, he must be alert and courageous. When he eludes his tacklers and goes squirming or dashing down the field, invariably he brings the thousands of spectators to their feet and they are filled with tenter excitement than in probably any other play except the kick-off.

Too many of the other plays are over before the spectators can appreciate the dramatic situation and the working of the play itself, but in this play the eyes of all are focused upon the man receiving the punt. They appreciate his every effort to elude his tacklers and, as he eludes one after the other, the feeling comes that possibly he will get away for a touchdown. Breathless and tense, they follow his every movement.

Realizing the important place that the

returning of punts holds in football, I invariably pick for this duty men who are either on my basketball or baseball squad, preferably baseball men. Baseball and basketball men are used to catching balls on the run.

In our system here at Whitman, this is our basic principle: GET THE BALL ON THE RUN! I consider this a very vital factor. Probably most of you will not agree with me on this point. I have dozens of coaching books on my desk before me and invariably they state that a man receiving a punt should strive to reach the point where the punt will hit the ground just as quickly as possible. We have discarded this idea for two reasons. In the first place, should the man catching the punt fumble it when he is standing still, almost invariably it will roll on behind him or off to one side and he will be at a great disadvantage in the recovery of it, because his opponents are already in motion. Every fraction of a second is very vital at this moment. If he comes up and takes the punt on the run and he fumbles it, usually it hits him on the chest or on the legs and he carries it along with him toward his opponent's goal and in the direction he is going. This means that, in the big majority of cases, the fumble is carried ahead of the receiver and behind the two ends who are coming down the field. Under these conditions he should be able to recover the fumble himself and even make yardage on the fumble, inasmuch as the ball has been carried forward.

The other reason, which I consider even more important, is this: Ends coming down under punts are instructed to attempt to figure out as soon as the ball is kicked just where the punt will light. They are instructed to focus, from that point on, their attention upon the man receiving the



R. V. Borleske

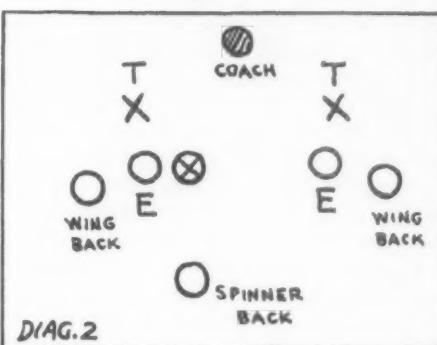
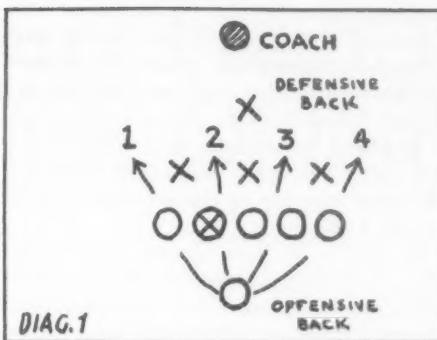
kick. If the man receiving the kick has come up to the place where the ball is going to hit, the ends going down devote their entire energy to meeting him at that point at the time when he will receive the kick.

Here at Whitman we instruct our men to lay back behind this spot several yards until the ball is almost to the ground and then to come up and take it on the run. This is very demoralizing to the ordinary set of ends. Time after time, I have seen the two ends crash together because the receiver had dashed between them at the last instant and gone down the field for a long return. We have several times also received fifteen yard penalties because these men have hit the receiver before he got to the ball, his actions leading them to believe he was about to catch it.

The running start assures the receiver a much quicker getaway and I also find that a good deal of the tenseness that comes when one has to stand and wait for a punt to come down is eliminated. One of the most trying situations in football is thus successfully met. When a man is standing waiting for a punt and he sees and hears the ends thundering down upon him and he knows he is in a helpless position, even if he is most cool and courageous, he is likely to get shaky nerves. If he meets the ball on the run, though, the muscular reaction eliminates a good deal of this nervousness and compels him to concentrate on the ball. He also knows that his momentum gives him an advantage over his opponents and eliminates his helplessness. With this knowledge comes confidence and, with confidence, more nearly perfect execution. By varying the distance that he lays behind the point where the punt is going to fall, he absolutely takes the fierceness out of the charge of the on-rushing ends, as it is impossible for them to concentrate both on the receiver and on the ball itself.

This system requires men who can handle the ball in their hands; consequently, baseball and basketball men are chosen. They are used to catching the ball in their hands and on the run. I prefer baseball men because they can better judge where the punt will light. Under this system it is very seldom that punts are allowed to hit the ground.

Several years ago, I noticed a big football game that decided the championship of the Pacific Northwest, and, in that game, in only two instances was an attempt made to return the punt. Such procedure eliminated all possibility of returns and also took from the game several thrilling moments for the spectators. It seems to me that quite often we have overlooked the fact that when a punt is returned ten or fifteen yards it is just as important as ten or fifteen yards made from scrimmage. We spend hours working up a forward pass play that we may use once or twice in a game. Yet here is a play that is used



continuously in every game, that offers opportunities for making from 50 to 150 yards during a game, and that, at the same time, furnishes the spectators many thrilling moments. Then why not capitalize it?

At Whitman we have found that clever returning of punts also accomplishes another very important thing. It is this: If our opponents know that we have a man who is clever at returning punts, they will do everything possible to make it impossible for him to catch the punt. They will kick it out of bounds, or to one side, vainly trying to keep him from catching the ball. The result is that most of the time our opponents' punts are from five to fifteen yards shorter than they would be under normal conditions. In game after game, Whitman with inferior kicking ability has actually outkicked opponents, because they were afraid to let our receiver catch the punt.

In our championship game last year, with an inferior kicking personnel, we outkicked our opponents 109 yards in the game. Because of their attempt to keep our punt receiver from catching the punt, they placed their kicks at such an angle that the distance was cut down from ten to twenty yards on each kick. Furthermore, although our opponents' kicks were placed at difficult angles, because our receiver was catching the punts on the run and their receiver was not, we gained 96 yards on the return of punts. Here is a gain of over 200 yards, due entirely to the fact that Whitman had a man catching punts who was apt, at any time, to break loose on such returns for a touchdown.

Clever return of punts also keeps the opposing quarterback in hot water, because

he must attempt to keep from punting as long as possible. Quite often, this forces him into a forward passing attack which he would not otherwise undertake. Appreciating this situation, we can play our defense more carefully for such an attack and consequently eliminate a good deal of its threat. The more the kicking and passing threat is eliminated, the easier it is for the defense to break up the opponents' running attack.

In this article, I have eliminated the details. Each of you has his own idea along that line and these suggestions can be worked out along your own line. What I have tried to emphasize is the underlying principle that the return of punts is a very vital part of any offensive system of football and indirectly plays an important part in the defense. Furthermore, it provides some of the biggest thrills possible in any football game.

Learning by Doing

By Jack West,
Football Coach, University of North Dakota

SOME one has said, "We learn by doing." The longer I coach the more I am impressed with this truth. I believe the best and certainly the quickest way to develop a football player is to have him play football. I have coached in a city high school, a military academy, a state college of agriculture and mechanics and a state university in turn. In none of these schools have I ever had more than two hours a day and usually only an hour and a half to devote to football, and if the boy is going to have any energy left for his other activities that is all of his time the coach should expect. Such being the case, the football coach has a fight against time every season.

At some time or another I have tried out all the mechanical devices used for the alleged purpose of developing correct football habits. Charging sleds, hurdles, boxes and special grass drills are fine things to impress the visiting alumni and coaching school students, but I don't use them because they don't pay dividends in the way of better football players commensurate with results I get when I spend the same amount of time and energy playing football.

I try to organize my practice work in teaching fundamentals to imitate actual game conditions, but with chances of injury reduced to a minimum. For instance, in teaching the boy to tackle we use the dummies to harden the muscles and give him a bit of confidence, and then we start using live bait. We pair the boys off and select these pairs according to size. I don't believe in a 140-pound boy hitting a 190-pounder unless it is necessary, as in a regular scrimmage or a game. I put them close together, running them easily at first, gradually increasing the speed and drive

for both ball-carrier and tackler. When the boys have developed confidence, we line up two tacklers on one ball-carrier with one of the tacklers five yards behind the other. After the season is about four weeks along, I usually tell the boys that as soon as they get four good, clean tackles they are through tackling for that drill. They will practice with more determination.

We follow the same plan in teaching blocking, using the dummies and passive opponents until the men acquire the idea of how they are supposed to execute the various types of blocks both for linemen and backs. As soon as the offensive player begins to acquire the correct technique we let the defense become more aggressive and start coaching the defensive players their different tactics. In the meantime, we are running signals, covering kicks, and receiving passes to develop wind, speed and proficiency in these fundamentals.

As soon as the players are sure of their blocking assignments and have had the preliminary blocking and tackling work discussed above, we start modified scrimmage. For illustration, we are using the double wing-back formation and we will line up as shown in Diagram 1. The coach will stand behind the defensive team and give signals with his fingers for the ball to be carried into either of the four holes by a plunge or a slant, offensive men working the same blocks they use in the regular plays.

We will have another group working at the same time, as shown in Diagram 2. The center, two ends, wing-backs and spinner back are on offense against the two defensive tackles, the coach standing back of the tackles giving signals with his fingers, calling for single reverses, double reverses with their check, spin or half spin plays inside of either tackle. The coach is given an opportunity to see faults and make constructive criticisms of both offense and defense. He can put in the offensive guards and a couple of defensive backs and add a pass or two and then put in his defensive ends and add his sweeps to the offense.

We have found we can do much more of this sort of scrimmage without injuries than we can with two entire teams, and yet it gives the coach a chance to polish up the execution of the fundamentals both in offense and defense under actual playing conditions. We employ the same principle with all punt formation plays, kicks, passes and runs. When we have two full teams in scrimmage, we use at least the referee and linesman and call the down and yardage, penalties, time, etc., using the same strategy as if it were a regular game.

September Philosophies

By Lewis Omer,
Carthage College

IT has been said, "The fall of man began when he dethroned Intuition and en-

throned Reason." This is perhaps as true of football as it is of man, and usually any attempt to classify the principles of football has led into that rigid, inelastic system of play which tries to substitute the law of averages for intuition and which rides to a fall whenever it encounters a leader who rises superior to the set notions and adages of the game.

Of course, a team cannot win many games without a knowledge of the fundamentals of the game. And, if there is any accepted principle in football today, it is that a winning team must be well grounded in the so-called fundamentals.

One of our troubles when we try to gather our football knowledge into a set of principles is that we fail by trying to make our laws too specific. Any attempt to be specific leads us into the situation where we are likely to have our applecart upset by the football artist who plays by depending upon his intuitions rather than by being governed by some general principle.

About as far as one can go is to develop some general combat principles which are as applicable to war, contract bridge, or chess as to football. A few years ago, I was a member of a class of reserve army officers, and we were working out a set of combat problems. It so happened that each time I was the first man of the group to hand in a satisfactory solution. The regular army officer in charge stopped the class and asked me my profession. When I answered that my greatest interest in life was coaching football, he turned to the class and said, "There you have it. The combat principles are the same in football and war. Imagine that your units are men playing football, and the solution of any of these problems becomes clear at once."

It will do the young coach no harm to try to develop a set of football principles, but he must do it with the mental reservation that there are times when these principles must be cast to the four winds if his team is to win. About the best that we can say for a set of football principles is that, in the main, they have proved effective only in the face of mediocre opposition and never against the team which carries the divine spark into play.

The first things which every coach must realize before he sets about choosing his type of play and his plan of campaign for the season are his own personal limitations and the limitations of time and material. He should try to judge his own capacities and to have his teams play the style of ball which he can teach most effectively and which his players are physically and mentally fitted best to play. If he is to survive long as a coach, he must develop his own philosophy of football. He must assimilate the knowledge and tactics of successful coaches as much as he can without unthinking imitation, graft the best of one system upon another, and before long he will be coaching a style of football which will be individual.

If there is any general principle of football, I would say that it is simplicity. More football failures result from a violation of this principle than any other. The plays given out at the beginning of the season must conform to this standard. Coupled with that as a corollary is the necessity of employing only a small number of plays. Simple plays, carefully executed, where each man knows his assignment and has been drilled until he can go through that assignment without thought, will get better results than intricate evolutions where the execution of the play may be marred by the failure of one individual to accomplish his assignment. It must be remembered that the players are under great stress and that only the simpler instructions will be remembered by the entire team.

Every coach at the beginning of a season is bedeviled by the question of what plays to give his team for the first game. He must have a play attacking the center of the line. He must have a strong play over each of the defensive tackles to prevent concentration at the center. And he will also need a couple of dispersion plays in the nature of wide end runs, forward passes, or quick kicks, which have the virtue of either giving a material gain or of forcing the defense to cover more territory. He must, besides, have the strongest possible kicking attack developed before the first game because of its defensive possibilities.

When it comes to the matter of selecting an offensive formation, it matters less what is chosen than would occur at first thought. Whether you are a partisan of the double wing-back, the shift, or the short punt formation, you will soon see that if you attempt to plan a set of plays from them that, while one type of play may work slightly better from one than from the others, the breadwinners of the game may be played from any of them.

There is no better way of getting this idea over to yourself than by trying to make up your pet play from any of the standard formations. For example, many coaches consider the off-tackle play the strongest and most effective play in football. You can develop a highly effective off-tackle play from any of the standard formations, and it must be one of the first plays taught. The same holds, more or less, for any of the group of standard plays.

Avoid special formation plays. Every few days during the season some one of the fellows who make up the staff of what the late Knute Rockne called the "Downtown Coaches" comes in with some special play which he wants the coach to use. Getting away from it is your own particular diplomatic problem, but at least never use a play which starts differently from your ordinary plays. That means that your plays should all start alike, even

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The Running High Jump of the Tenth Olympiad

By T. E. Jones

Track Coach, University of Wisconsin

THE Tenth Olympiad saw the end of American supremacy in the running high jump by the narrowest margin possible. The United States had monopolized this event since its revival in 1896 through the performances of the following men:

YEAR	WINNER	COUNTRY	HEIGHT	FORM
			Ft. In.	USED
1896	E. H. Clark	U.S.A.	5 11 $\frac{1}{4}$	Sweeney
1900	I. K. Baxter	U.S.A.	6 2 $\frac{1}{4}$	Scissors
1904	S. S. Jones	U.S.A.	5 11	Sweeney
1908	H. F. Porter	U.S.A.	6 3	Sweeney
1912	A. W. Richards	U.S.A.	6 4	Sweeney
1920	R. W. Landon	U.S.A.	6 4 $\frac{1}{4}$	Sweeney
1924	H. M. Osborne	U.S.A.	6 6	Western Roll
1928	R. W. King	U.S.A.	6 4 $\frac{1}{4}$	Western Roll

A month before the 1932 Olympic Games, the writer with others felt that the high jump was one event in which the United States would continue to keep its supremacy. In fact, many thought that we would sweep the field. I cannot remember a time when there were so many outstanding performers as appeared in our preliminary tryouts. It was common opinion at this time that Spitz, Ward and Nelson, who had bettered 6 feet 7 inches, all using the Sweeney jump, would be the outstanding performers, and that the Eastern form would again prove its superiority over other forms used in the event.

In the final tryouts at Palo Alto two weeks before the Games started, eight aspirants for the American Team in this

event cleared 6 feet 5 $\frac{1}{2}$ inches, the winning height of the Olympic Games. Three of the eight men finished in a triple tie for the team with a height of 6 feet 6 $\frac{1}{8}$ inches, breaking the Olympic record. These

men were Robert VanOsdel of California, George Spitz of New York and Cornelius Johnson, a Los Angeles high school lad.

The event at the Olympic finals proceeded in the usual manner, six men clear-

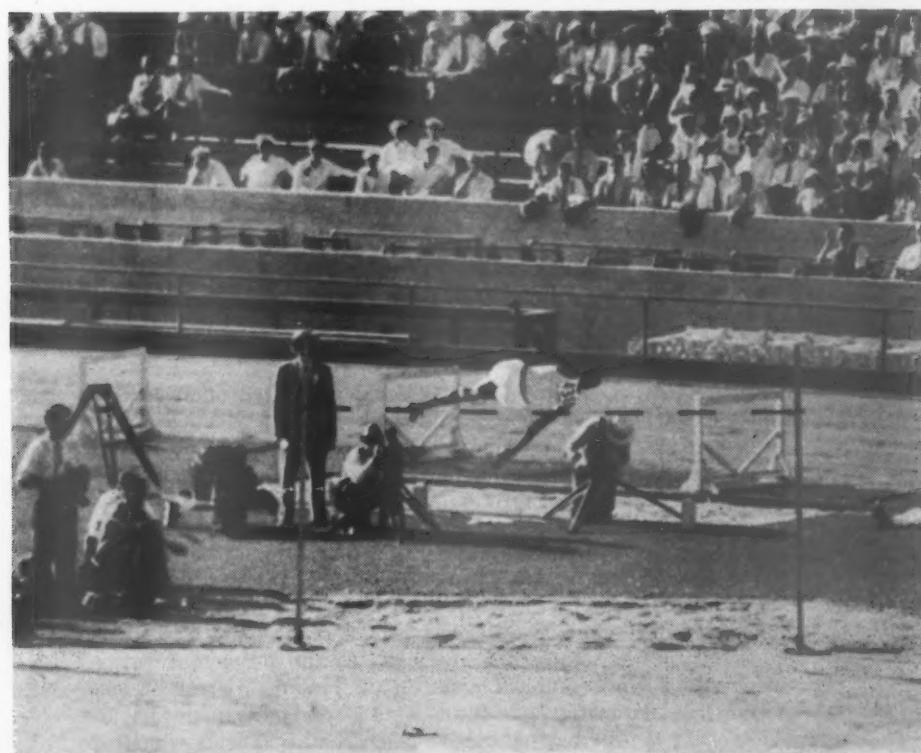


(Above)

In one of the hardest fought battles of any Olympic meet D. McNaughton of Canada won the high jump event in the jump off of a four-way tie. McNaughton's jump was 6 feet 5 $\frac{1}{8}$ inches.

(Left)

Cornelius Johnson of the United States team going over the bar during the finals of the high jump at the Olympic Games. Johnson and three others tied at 6 feet 5 $\frac{1}{8}$ inches in the finals, and in the jump off Johnson placed fourth.



ing 6 feet 4 $\frac{1}{4}$ inches. The first four men failed at 6 feet 7 inches, which made a four-way tie in the event, according to the National Collegiate Rules. However, there must be an Olympic Champion. The Olympic Rule provides that the first man to clear the bar on an equal number of trials is declared the winner.

The bar was then lowered to 6 feet 6 inches, and each man was given one trial to clear. Duncan McNaughton and Robert VanOsdel cleared it, and Torbino and Johnson failed to clear, leaving the championship between McNaughton and VanOsdel.

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*W. D. Vinson
High School
Eatonville,
Washington*



*I. L. Peters
Public Schools
Stuart, Iowa*



*W. J. Aschenbach,
Jr., New Trier
Township High
School, Winnetka,
Illinois*

Helps and

FOOTBALL and

by Prominent Western and Mid-

The High School Equipment Room

*By Clarence Hines
Pendleton, Oregon, High School*

EXT to the actual work of coaching his teams, the care of equipment requires more of the time of the average high school coach than anything else he is called upon to do in connection with his athletic work. Even the smaller high schools now have several hundred dollars invested in equipment for the various sports, and, with retrenchment necessary, it becomes even more important to care for equipment in such a manner as to secure the maximum amount of service from it.

There are really only two reasons why equipment has to be replaced; it either wears out or it is stolen. With no carefully organized system of caring for athletic supplies, one is as important a cause of its disappearance as the other. Failure to repair equipment properly or at all allows the material to deteriorate. It wears out much more quickly than it should and the school does not get the use of the normal life of the article. An adequate system of checking out equipment to players and checking it in from them, combined with a safe storage place, will do much to decrease the loss from thievery.

The care of athletic equipment depends primarily upon some well organized system of handling it. Of course, any such system must depend upon an equipment storeroom for its success. In the larger high schools, as in the colleges and universities, plans are usually made when the building is constructed for an athletic equipment storeroom. In the smaller schools, however, the coach is not only frequently forced to discover his own storage space for equipment, but often must also undertake the work of installing shelving and bins to care for the supplies. It is for this group that the suggestions made herein are offered.

The amount of material which is to be placed in the equipment room and the space available for storage are the immediate things to be considered when a storeroom is being organized. Extra space, which at the time may seem entirely unnecessary, allows room for future expansion. Needless to say, the storeroom must be a safe place, possibly with barred windows and reinforced doors, for the urge to collect souvenirs is strong in the heart of the average American schoolboy. Taking school athletic equipment does not, to the typical school athlete, seem to be stealing. He is simply collecting mementoes which in future years will remind him of his school days. This quaint custom on the part of athletes is a costly one from the school's standpoint. The storeroom, therefore, must be organized and protected from amateur vandalism.

Any well organized storeroom must have shelves and bins where materials can be kept in an orderly manner. If there is not some system within the equipment room as to the placing of various articles the room loses much of its value. Finding a jersey becomes not so much a matter of routine as a period of exploration and discovery. It will be found best to place the articles which are

Hints on Coaching

BASKETBALL

Western High School Coaches

issued freshly laundered weekly, or oftener, near the door or window from which supplies are issued. Articles seldom issued, and reserve supplies, should be kept in the more remote parts of the room. Equipment for sports which are not in season also may be relegated to a position of less accessibility. An arrangement of bins which places towels and supporters on one side of the issue window, with sweatshirts and undershirts or socks on the other, has been found satisfactory from the standpoint of convenience.

Numbered pieces of equipment, and a card index or similar system for recording them, are necessary to assure an accurate checking of supplies. Two systems of numbering are in more or less general use in storerooms of the larger and better organized schools. One of these systems consists of numbering each article of equipment and then recording that number with the name of the player to whom it is issued. The other is to assign to each player an equipment number and, after selecting his equipment, to stencil each article with his particular number. The first system requires more bookkeeping, but in a general way gives a better check on equipment issued, as a man must turn in articles bearing the numbers issued to him.

The second system generally operates to insure better care of equipment, as a player has his own suit, bearing his number, assigned for the season. Knowing that the equipment will be his for three or four months' use, the player is inclined to take more pride in it and better care of it. Another advantage of the system involving the use of special equipment numbers is that a player may check in equipment by stating his number to the storeroom keeper or coach, and receive clean supplies with little difficulty. A list of equipment numbers with the name of the player to whom each one is issued may be posted inside the storeroom where it may be readily consulted. No card system is necessary and, where storeroom help is scarce or time is limited, the ease of operating the individual equipment number system is a distinct advantage.

Regardless of the system used for issuing equipment, the plan will be a failure unless players understand that they are to be held responsible for the safe return of articles issued to them. Furthermore, they must actually be held responsible by being required to pay for articles which they fail to return. In this way there is developed an idea of the cost of property which should prove of value to them in later life. There undoubtedly will be times when a player, known to be honest, has equipment stolen from him. The best way in which to teach him to exercise greater care for property in the future is to require him to pay for the stolen articles. The system of allowing players to exchange towels, socks, and supporters without any numbering system at all is conducive to thievery, as one boy may steal another's equipment to turn in and hold out his own for souvenirs.

If it is at all possible, the storeroom should be located so that it opens into a locker or dressing room used by the players. If it is removed by any considerable distance from the dressing room its value and efficiency are both greatly lessened. A door cut in half so that the top part opens out while the bottom remains in place is the most convenient system for issuing supplies. A window, pro-



Robert L. Dairy,
North Junior High
School, Colorado
Springs, Colo.



Levi Dickey, High
School, Chino,
Calif.



Clarence Hines,
Senior High School,
Pendleton, Ore.



Oliver E. Brown,
Orestimba Union
High School, New-
man, Calif.

viding the opening is sufficiently large, has also been found to work quite well for this purpose. The storeroom should, if possible, have several windows, all of which should be barred. They should open in such a way as to permit the sunlight to enter the room. Whenever the weather permits, the windows should be left open in order that the equipment may be well aired. In spite of this airing, precautions will have to be taken against moths, mold and mildew.

It is quite essential, if the equipment room is to be operated successfully and supplies cared for adequately, that the coach have some assistance in the matter. Few high schools are so large that they can afford even a part time storeroom attendant. The only source of assistance, then, appears to be from students. Such students as wish to help in the care of athletic teams and equipment are usually designated as student managers and are given some kind of award for their services. This award usually takes the form of a letter with some special designation to distinguish it from the regular school letter. In addition to the award, managers are frequently taken on trips with the teams as extra reward for their services. Instances are rare where high school managers receive any compensation for their services.

Two things must be kept in mind in choosing boys for the athletic manager positions. The first is that they must be boys of unimpeachable honesty. The second is that they must be boys who are intensely interested in athletics and yet who will probably never make a team or squad. In either of these points there is considerable possibility of error, which may be detrimental to the managerial system, but yet is unavoidable. If a mistake is made in choosing a manager, the sooner he is dismissed the better for all concerned.

While the actual work of organizing the equipment room itself and of caring for the equipment may be left to athletic managers or hired workers, the task of directing the work is the coach's own responsibility. It is his business to decide whether equipment is worth repairing and how it shall be repaired. Only a policy-determining official can make a decision on this matter and the coach, as the official in charge, must accept it as a part of his responsibility. It is to his advantage, as well as his duty to the school which employs him, to see that each article of equipment renders its full amount of service.

Equipment Economy

By Oliver E. Brown,

Orestimba Union High School, Newman, Calif.

THE problem of furnishing new uniforms was a heavy burden on the student body treasury during so-called normal

times, but with decreased attendance and reduced revenue the small high school finds it almost impossible to clothe its various teams adequately for an entire school year.

The need for complete new outfits annually can be eliminated by instituting an effective system of cleaning and drying suits. In almost every gymnasium there is a corner in which can be built an inexpensive but practical and efficient drying room, which in a very short time will more than pay for its installation.

A room three feet deep, ten feet wide and eight feet high, lined with thin gauge galvanized iron can be equipped at a small cost. Galvanized pipe is the most satisfactory material for hanger racks. It is wise to construct a protective shelf of galvanized pipe and wire about three feet above the floor to prevent clothing from falling on the heating unit.

A seven-foot heater equipped with six equally spaced, 600-watt, 220-volt, screw type electric elements will supply adequate heat.

Excellent ventilation may be assured by cutting eight three-inch (diameter) holes in the doors four inches from the floor and constructing the top of the room in a cone shape with a small power fan installed in a six-inch pipe that discharges the air current out-of-doors. The fan should be run only when the heater is burning.

The local tinsmith and electrician or the high school shop classes in electricity and metal working can install the complete unit in a very short time at a cost well below the expense for extra suits plus replacements of soiled or damaged clothing. Dry, comfortable uniforms mean much in bolstering up team morale during the strenuous training season preceding and during league play.

A dryer of this size will accommodate training shirts, shoulder harness and socks for thirty-six football players; the entire uniform, exclusive of training pants, for fifty basketball or track athletes; and will be more than adequate for the baseball squad.

Boards of education are anxious to assist school teams meet expenses of athletic programs. An expenditure of this type can, and in most instances will, be assumed by the school district under its program of capital outlay.

Another phase of economy, especially in basketball and track, is to permit no practice in team suits. An ordinary gymnasium suit with a change of colored shirts that the school will furnish allows flexibility in combination groupings. As a result, game suits are kept in excellent condition, the team will be well dressed on all public appearances, and no sacrifice of team or individual training will have been made by the squad. Football squads seldom wear their expensive jerseys for practice, but prefer a good, heavy, fleece-lined training shirt.

All suits kept clean and dry during the sport season will give better than twice the guaranteed wear if they are well cleaned before being stored away at the close of league play. In the long run, dry cleaning is the cheapest. (Our local cleaner often gives us rates on cleaning of this kind because he can use it as a "filler" if there is no rush in having it returned.) Dry cleaning preserves color and size of garments, and suits are returned neatly pressed ready to store. If a cedar-lined closet is not available, it is wise to put moth balls in the packages unless they are wrapped in newspaper.

A drying room and suit storage facilities are good investments for the small high school with limited revenue. They help make wearing apparel last longer, look better, feel more comfortable to the players, and save money for the student body which may be diverted to develop equally worthy activities.

Adjustable Basketball Offense

By Levi Dickey,

Chino, California, High School

AT the present time, basketball teams meet many different types of strong defenses. Sometimes a team will score easily against one defense and not against another. The reason for failure usually is that the team is not using the right style of offense to solve the particular defense. In teaching a team the correct offense for the varied defenses, it is a good policy to use one form of offense that can be readily adjusted without the loss of team play caused by an entire change in form of play.

The writer has used a common style of offensive play against all types of defense with reasonable success. Good use is made of a fast break to catch the defense off guard. If the defense is set, three men are sent through the first line of defense and two men remain in the back court. With this formation, very little change is necessary in play to meet the different defenses.

The two principal types of defense used by the high schools in Southern California are the five-man shifting zone and the man-for-man. The man-for-man is usually a waiting defense, but sometimes a team will cover the entire court. Many times a team will use a varied defense of both types.

The zone defense generally has the guards in the back with the forwards and center out in front. By using three men past the first line of defense and two out, the offense can force the zone defense to put a third man back or face the possibility of permitting easy side shots with one man open on either side of the basket all the time. When a third man is shifted back, the passing lanes are more open and the defense is similar to the man-for-man

type. Crossing and screening can then be used to advantage. This "three men in" form of offensive demands a clever center man, with forwards who can wait and cut at the proper time, and guards who are good at handling the ball and passing. The guards stay out to check a quick break and pass the ball from one side to the other for an opening to the forwards or center. By clever and fast work on the part of the guards, the zone defense can be shifted out of position, or good use can be made by the forward's side shot and the guards cutting in a few steps for a medium shot. With the players in these positions, there is a good chance of recovering the ball in case the basket is not made.

Against a man-for-man defense, the guards of the offensive team may handle the ball in a similar manner, but allowing for the possibility of an opponent coming out to cover. When opponents come out to cover the guards, it helps to open the way for a pass to the forward or center. Many possibilities of screening off opponents and breaking away from them are possible from this formation start.

The main idea to emphasize is the use of one playing form for an offensive to cope with the various defenses. A team must be able to play against all types of defense with as little mix-up in team play as possible. Coaching entirely different playing forms to meet the different defenses is confusing to players and often results in a weak offense. Making one deliberate playing form adjustable to varied defenses, and combining it with the use of a fast break, makes a team stronger and steadier under all conditions. Practicing against different defenses during the same practice period is also a great help in training the team to solve the varied defenses.

Blocking, Tackling and Morale

By W. D. Vinson,

Eatonville, Washington, High School

BLOCKING, tackling and morale—and the greatest of these is morale. The more limited the available material for the team, the greater is the problem in developing this morale. It is not the attitude the boy assumes; it is what he feels in his heart and how he responds to various situations. It is not how the squad talks; it is what the squad does when in tough positions that wins games.

More games are lost through fear than through overconfidence. The fear which breaks down morale is not fear of physical injury, but is fear of doing the wrong thing, fear of ridicule; in other words, indecision. The cure, then, consists of making each boy see that he must act promptly and profit by every mistake he makes. The unforgivable cardinal sins of a boy are allowing himself to be dominated by any

such fear and failing to do the best that is in him. A boy must know thoroughly how to block and how to tackle and he must know that he will not be ridiculed if he makes a hard try and misses; he has ten team mates. Better a hundred times over to do the wrong thing than to do nothing.

When a boy begins really to like to "smack 'em down," he has arrived. He must be successful in order to enjoy it. A few leaders who get a real kick out of bodily contact mean a football team. Enjoyment and confidence are infectious; they spread like a fat man's smile. Individual confidence builds team confidence. It pays big dividends in the percentage column to study every boy. He should know that he has tradition to uphold and that others are confident of his ability. It is up to his will to play the game.

A Passing Attack for High School Teams

By W. J. Aschenbach, Jr.

New Trier Township High School, Winnetka, Ill.

THERE is probably no play in football that takes as much practice to develop and execute properly as does a passing attack. As a corollary to this, there is no play which pays in dividends (touchdowns or long gains) as much as a good passing attack. Instead of using passes to make the running plays work, one can use running plays to make the pass plays work.

The methods we employ to develop a passing attack are as follows. During the first few days of practice the ends and backs are instructed to run about fifteen yards and then cut right or left, turning only the head to look for the pass and not slowing up. The backs alternate passing the ball to the receiver, each back having six throws. In this way the best passers on the squad can very quickly be spotted. Since about 75 per cent of a good passing offense depends upon the passer, this is very essential.

In addition to being able to pass the ball accurately it is necessary that the passer have that instinct of how far to lead his man in order that the receiver gets the ball on the dead run. The best passer or passers are then assigned to the left half-back position, provided the halfbacks pass the ball, since it is easier for a right handed person to run to the right and throw than to run to the left and throw. The receivers are instructed to catch the ball with their hands in the same way a baseball is caught.

The next drill is the same as the first except that a defense man is placed 15 yards from the receiver with instructions to knock down the pass. The receiver runs directly to this player, then cuts right or left. As a result, the receiver is usually two or three steps ahead of the defense man. If the pass is led correctly the receiver has no difficulty completing the pass.

After a couple of pass plays have been assigned, the next drill is to form a skeleton team consisting of center, ends and backs, and to place four backs either in box or diamond defense, according to the pass play and type of defense most commonly encountered during the season. The defense remains stationary, and the passer throws to each of the eligible receivers in turn, thus fixing in his mind the location of his receivers.

This drill is followed with the same set-up as above except that the defense attempts to knock down the passes, and the passer attempts to complete the pass to the receiver who is free or a couple of steps in advance of the defense back.

Timing is very important. Usually the center can count aloud—one, two, three, four. The passer takes three steps on the first three counts, gets set, looks for the eligible receiver on the count of four, then throws. At the same time the receivers count three to themselves as they run, and turn their heads on the count of four to look for the ball without slowing up. The boys seem to get a great deal of fun from this drill if a game is made out of it. This can be done by lining up two skeleton teams, giving each one ten passes. A completed long pass counts two points, a short pass one point; an intercepted pass subtracts two points from the total.

Allow at least two half-hour periods during the week of practice on passing and they will pay large dividends in touchdowns or long gains.

Effect of Football Upon Physical Condition of Players

By A. E. Stoddard

Supervisor of Physical Education, Junior and Senior High Schools, Kalamazoo, Michigan

THIS study was carried on at Central High School, Kalamazoo, Michigan, during the season of 1931.

The study was made with the idea of finding out, as nearly as possible, the actual physical condition of the players. The study included only those boys on the varsity team. It was thought desirable to know what changes took place in a boy's physical condition as a result of playing football, and whether or not these changes were harmful or beneficial.

From a careful study of the attached findings, it seems that the boys were benefited rather than harmed.

At the close of the season the boys were all examined by a physician and were pronounced by him as being in fine physical condition.

The boys who took part in this study, as well as all the other boys who took part in athletics, were given a careful examination by the school physician. Boys not in good physical condition are not allowed to go out for any athletics. This examination

TABLE 1

Record of blood pressure and pulse rate for the football season of 1931:

Player—	Blood pressure before season	Blood pressure after season	Pulse rate before season	Pulse rate after season	Highest pulse rate of season
Clark	114/72	115/56	90	80	104
Everhardus	112/70	116/60	94	84	96
Hughes	110/62	108/62	80	84	104
Haverman	126/76	122/60	88	78	108
Hanshue	124/76	122/48	80	82	108
Johnson	120/76	114/64	82	84	120
McClellan	118/78	118/50	90	76	100
Perk	118/82	124/62	94	84	122
Pettiford	104/68	100/78	94	86	106
Roberts	122/72	138/52	92	88	108
Riddle	126/82	114/52	88	80	112
Shank	112/78	116/58	..	..	...
Sinibaldi	114/70	112/52	88	72	106
Survilla	106/66	118/72	76	..	111
Snyder	118/76	126/44	92	80	128
Van Keuren	122/80	118/58	88	76	128
Wilson	116/80	122/80	96	98	128

TABLE 2

Record of weight changes for the football season of 1931:

Player—	Weight beginning season lbs.	Weight close season lbs.	Gain or loss lbs.	Aver. loss first week practice lbs.	Aver. loss last week practice lbs.
Clark	158	164	G 6	3.0	.40
Everhardus	147	149½	G 2½	1.65	1.0
Hughes .....	...	...	...	...	...
Haverman	159	161½	G 2½	2.33	1.60
Hanshue	178	183	G 5	3.0	1.60
Johnson	182	180	L 2	1.67	2.25
McClellan	164	163	L 1	3.0	2.75
Perk	163	166	G 3	2.0	0.00
Pettiford	149	152	G 3	1.0	.50
Roberts	163	165	G 2	3.0	1.00
Riddle	189	180	L 9	2.67	1.75
Shank	178	171	L 7	3.0	2.00
Sinibaldi	176	177	G 1	3.67	1.40
Survilla	141	140	L 1	2.0	1.66
Snyder	159	158	L 1	3.66	2.40
Van Keuren	176	174	L 2	2.33	1.25
Wilson	156	154	L 2	2.66	.75

TABLE 3

Loss and recovery of weight of players during the Benton Harbor and Muskegon games:

BENTON HARBOR

MUSKEGON

Name of player—	Weight before game lbs.	Loss lbs.	Following Monday lbs.	Weight before lbs.	Loss lbs.	Following Monday lbs.
Clark	158	0	161	158	0	160
Everhardus	146	0	146	147	1	147
Hughes	140	2	141	...	..	...
Haverman	159	4	160	160	2	159
Hanshue	177	3	180	179	4	181
Johnson	181	4	179-Tu.181	180	0	181
McClellan	162	5	162	163	5	163
Perk	162	4	165	165	7	166
Pettiford	146	0	149	149	2	...
Roberts	160	0	163	163	0	164
Riddle	180	4	183	181	3	181
Shank	171	2	173	171	3	173
Sinibaldi	175	4	177	174	4	178
Survilla	135	5	137	136	3	140
Snyder	159	4	158½	159	3	159
Van Keuren	173	2	175	178	3	174
Wilson	150	3	153	153	5	153

includes blood pressure and pulse rate.

During the season a record was kept of the daily weight before and after practice; weight before and after each game; the pulse rate before the season, before and after each game and at the close of the season. Blood pressure is also taken after the season is over.

The blood pressure as shown in Table 1 was taken by two different physicians.

The pulse rate was taken just before the season, as was the blood pressure, and both again at the close.

The pulse rate was taken just before each game and at the close of each game. The high stage of pulse rate was, in most cases, after the game. In one or two cases the high rate was just before the game.

The pulse rate was taken after the boys had their shower, which in most cases would be around 30 minutes after the close of the game.

It will be noted by consulting Table 2 that, in some cases, boys lost weight over the entire season. In each case showing a loss in weight, the boy was overweight at the beginning of the season. In cases showing a gain in weight the boy was in good condition at the beginning of the season; that is, not the fat type of boy. It will be noticed in the last two columns that the weight lost during practice shows a steady decrease from the opening of the season till the close of the season. This would indicate a good physical condition.

By referring to Table 3 it will be seen that the average loss per player in the Benton Harbor game was 3.7 pounds. The total loss of weight not made up by the following Monday was 1½ pounds. This loss was made up by the following Tuesday. The total gain in weight for the team from before the game to the following Monday night was 31 pounds.

The average loss per player in the Muskegon game was 3.46 pounds, with a total weight not made up by the following Monday of 5 pounds. A total gain in weight for the team from before the game to the Monday night following was 17 pounds.

These two games were perhaps the hardest of the season.

TABLE 4

Actual Playing Time

Position	1st timing	2nd timing
Quarterback ..	8 m. 36 s.	9 m. 20 s.
Left half	10 m. 44 s.	10 m. 4 s.
Right half	11 m. 6 s.	10 m. 42 s.
Fullback	14 m. 49 s.	14 m. 40 s.
End	10 m. 36 s.	11 m. 00 s.
Tackle	9 m. 13 s.	10 m. 52 s.
Guard	9 m. 37 s.	9 m. 25 s.

This shows time that each position of the game requires of the players. This is the time the boys were actually in motion during a play. Each position was timed with a good stopwatch twice during the season.

The game of football as played in high schools requires a total time of 48 minutes,

divided into four quarters of 12 minutes each. There is one minute time out between the first and second quarters and between the third and fourth quarters, with fifteen minutes between the second and third quarters.

Time out during the game, time when the teams are not in motion and when the play has stopped usually means that the total time from the beginning of the game to the end is close to two hours. The above figures mean, then, that a boy plays not more than 14 minutes, 49 seconds during the approximate two hours.

The Physical Education Program of a Junior High School

By Robert L. Dairy,
North Junior High School, Colorado Springs, Colo.

IN the North Junior High School, as in many of the large junior high schools, the boys' and girls' departments are entirely separate. Each division, with its respective staff, carries on its own program in a separate part of the gymnasium. The two programs are somewhat similar in nature. Our primary aim is to secure a physical education program that is interesting in type, educational in accomplishment, and tending toward the all-around development of spirit, mind and body and the citizenship of the student.

FACILITIES—The athletic field is composed of ten acres of level, loose sand and comprises football and speedball fields, six tennis and eight outdoor basketball courts and a playground baseball field. A portion of the football field is used for track and field athletics. This has a 120-yard straightaway, and the jumping and vaulting pits are adjacent. The running track encircles the football field. The principal reason for loose sand is that it reduces the possibility of injury. During the last three football seasons we have had only two broken bones for a total list of football injuries. This may be traced to the fact that the shock of falling on loose sand is not as great as on a hard turf, especially for junior high boys who have not learned the special skill of knowing how to fall when tackled.

There is one large gymnasium divided by folding doors, the boys using one half, and the girls the other for all of the regular class periods. This arrangement provides for maximum usefulness and ease of adaptability. Two basketball and volley ball courts are available for intramural programs. The gymnasium also serves as an auditorium for the entire school.

Four weeks of the year, the boys' and girls' classes are mixed in order to teach games for their own social gatherings and the resultant social educational values of junior high school boys and girls playing together in team games. The gymnasium is equipped with two large shower rooms, one at each end, and every boy and girl

has a separate locker. Both boys' and girls' instructors have separate offices that are connected with shower rooms and gymnasium. Each department has its own different gymnasium equipment and supplies. By the use of portable benches, the gymnasium seats 1,000. Adjustable windows on three sides midway between top and floor admit plenty of Colorado sunshine for assimilation.

An indispensable item in the gym is a bulletin board. On a large board are posted schedules, results of motor skill tests, team standings, posture standards, sportsmanship creeds, health rules and pictures showing special skills of different games such as hurdling, sprinting and pole vaulting.

The schedule of the activities in the physical education department in order of their importance lists health work, physical education classes and intramural athletics. One radical departure from the accepted physical education program has been made in that all interscholastic athletics have been abolished. We could not justify interscholastic athletics with their specialization and resultant evils among junior high school students. In order to prove this statement, I will cite an example. There are three junior high schools in Colorado Springs, and a schedule was drawn up in football, basketball and track for contests between the schools. Although the games were properly sponsored, junior high enthusiasm and rivalry became too intense, and, as a result, we had numerous fights and arguments occurring after the games between students of the schools on their way home when in small unsponsored groups.

HEALTH WORK—The general objectives in health work are fixing proper health habits, giving health information and developing health consciousness, both mental and physical, as an individual and as a member of the social group.

At the beginning of the school year a physical examination is required of every student of the school. It is given under the direction of a physician and the physical director. The purpose of this examination is to safeguard the student from that type of exercise for which he may not be physically fitted and to discover any incipient pathological conditions that might prevent him from doing the school work.

The school does not attempt to prescribe either through a physician or otherwise except in cases that are preventive and are connected with the general sanitation and control of the school. Defects are reported to parents with recommendations from the school physician, and the boys in the restricted groups are re-checked at the end of the first semester and at the end of the school year. There are three groups after the examinations: boys who are permitted to do anything, boys who are limited in activities and do mostly remedial physical work and boys who can not do any work

in the physical education department.

Twice during the week the time allotted to free play is devoted to hygiene discussion with such topics as care of the teeth, posture, elimination, diet and first aid. A health knowledge test is given twice a year covering the discussion of these topics. Free milk is provided undernourished students who are 15 per cent to 20 per cent underweight.

Each boy who is to engage in a strenuous sport such as football must have a parent's consent card filled out and signed by the parent. In case of serious illness or injury, first aid is rendered, the school office is notified, the parent telephoned and the family physician, or some other physician agreed upon by the parents, is summoned to the boy at home, at school or hospital.

CLASS WORK—The daily program consists of six 50-minute periods. Each class is divided into six classifications, A, B, C, D, E, F, each classification being based on class, weight, height, and age. For example, a boy is a 9B-1, his class age gives him the exponent of 10; weight 120 pounds, the exponent will be 10; height 5 feet 6 inches, the exponent will be 8; his chronological age 14-10, the exponent will be 10. The sum of the four exponents will place him in one of the above mentioned classes; for instance, class F, which sets a goal of 800 points for him to achieve if he is to measure up to a normal boy of the four above mentioned factors. Class A starts with 300 points, class B, 400, and so forth up to class F with 800 points.

There are fifteen events listed from which the boy chooses ten to earn his points. The fifteen events are the following: football punt, football drop-kick, football pass, speedball kick, foul shooting, floor shots, indoor baseball pitching, rope climbing, pull ups, half-lever, push ups, high jump, broad jump, shot put and 100-yard dash. The different events are classified according to season and each month of the year; the football and speedball events are in the fall, the basketball and gymnasium in the winter months, and the track and field events in the spring.

Each event is minutely charted and points listed for the work achieved. For kicking a football a hundred feet the boy receives 90 points, indoor baseball pitching (three strikes out of ten trials) earns 20 points, high-jumping four feet earns 65 points. Each boy has a permanent Decathlon card, and a record is kept of his performances and posted on the bulletin board.

Each class practices on an event before doing it for a record. For required work in class, groups of twelve pupils for each squad are most convenient, as this number will serve for two basketball teams, a football or a track team within the group. The squads are numbered, with squad 1 being composed of boys in class A, squad 2 of

(Continued on page 40)

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Marks of a Free Mind

PRESIDENT GLENN FRANK in his address of welcome to the University of Wisconsin students recently suggested that "The University is dedicated to development and discipline of the free mind of the first class man."

"The free mind of the first class man knows no loyalty that would take precedence over loyalty to the truth which it seeks to see clearly and without bias in the true light of facts."

"The free mind resists enslavement to passion, to prejudice, and to partisanship." . . .

Since we have been accustomed to accord athletics emotional rather than rational treatment, it is all the more necessary that coaches and athletic directors deal with their own subjects scientifically. There are so many fine qualities inextricably interwoven into our amateur athletics, the existence of which is susceptible of proof, that it is always a mistake to make claims to the effect that this and that virtue is inherent in athletics when the proof of the statement is not at hand.

Very few people possess the ability to think honestly and in straight lines. A coach by training learns to cut through non-essentials and to reach the proper objective. If he cannot distinguish between the important and the unimportant in devising his attack and defense he will not be a successful coach. We need this same type of thinking, devoid of prejudice and passion, in consideration of matters having to do with the philosophy of athletics.

Goats

THE POET who coined the words, "Man's in humanity to man," doubtless had in mind, in part at least, man's tendency to blame his leaders not only for the mistakes that they have made but also for mistakes made by the individuals themselves. It is well understood that if there are crop failures, business failures, floods, tornadoes or other phenomena, whether natural or man created, during a President's term of office, the President will be

blamed by some people for these coincidences at election time.

In some countries it has been customary for general officers who have fought losing battles to commit suicide whether they were defeated by insurmountable odds or not.

Some people show this human tendency to make goats of the men who officiate in a game in which their team ultimately loses.

Every coach knows that he may be sacrificed at the end of a losing season, even though his team lost through no fault of his own. Here again is apparent the disposition on the part of certain people to want to punish someone for what they think of as their disasters and misfortunes.

While the fact that this quality of inhumanity indicates that we are not far removed from savagery and is to be deplored, yet the wise man holding an office of any kind that is in the public eye may well be philosophical regarding these things. A President may expect to be condemned if several hundred thousand people who do not know the difference between a holding company and a producing company lose their money in a holding company investment. An army officer may expect to be held accountable for successes in the field even though the task that was assigned him was not possible of accomplishment. A football official or a baseball umpire who is thin-skinned and who worries too much about unjust criticisms leveled at him will probably soon pass out of the picture. In the same way a college football coach must realize that when his teams win he will be called a miracle man, although he may have such splendid material that he himself deserves but little credit for the success of the team, and that he will be ridiculed and damned when his teams lose. The point of all this is that coaches should not expect too much at the hands of their fellow men; and thus they will not be disappointed.

The New Rules

ENOUGH GAMES have been played to show that the fears of those who were apprehensive lest the Football Rules Committee had spoiled the game were unjustified. The writer has witnessed three games since the new rules went into effect. In each game he saw a player fall, regain his feet and struggle forward for a few yards. Of course the ball in each instance was brought back to the spot where the ball carrier's knees had touched the ground. Very few spectators, it may be assumed, were cognizant of the fact that the dead ball rule now in effect was different from the old rule. It may be, however, that in games played on muddy fields there will be more occurrences in which the ball-carrier falls and then recovers his balance than have so far been noticeable in the games played on dry fields. If after a season's trial, however, it is clearly shown that this rule has materially affected the game, the Rules Committee may reasonably be expected to make suitable changes and modifications.

Further, the rules applying to the use of hands

on the part of the defensive linemen has not given the offense the advantage that some predicted it would. Where a defensive lineman is allowed to hit an opponent in the face with the heel of his hand, even though his body may be moving forward with the charge, the element of personal punishment enters in and some of the niceties of amateur sport pass out. Football is a rough game and a dangerous game as well. It would be a mistake to eliminate all of the danger from the game because youth is attracted to those activities in which there is an element of danger. There is no reason, however, why football should be unnecessarily dangerous or unnecessarily rough.

The kick-off rule, while undoubtedly handicapping the receiving team to some extent, has not materially changed the complexion of the game. The five men in the restraining zone between their 45- and 50-yard lines still have the opportunity of blocking the opponents who are going down under the kick and they may, if they choose, run back after the ball is kicked for the purpose of forming interference for a team mate. It may be that there will not be so many touchdowns scored this year from the kick-off as last, but it will be interesting to give this rule a fair trial.

Regarding the flying block and the flying tackle, the coaches no longer will ask men in practice to dive through automobile tires or over hurdles in an attempt to teach them to leave their feet when tackling. If the rule eliminates some of these foolish coaching tactics it will be very much worth while. Many injuries occur each year in September and early October when boys, because of improper blocking and tackling methods, strike the ground with the points of their shoulders. The wise coach will teach the kind of tackling and blocking that the older officials have been emphasizing for a number of years. We may expect to see more high blocking than formerly and with it as many long runs as, if not more than, we saw when the old style of blocking was in vogue.

All in all, the Rules Committee showed wisdom in making the changes that were made and undoubtedly by the end of the season there will be fewer criticisms leveled at the rules than one hears nowadays. It is to be hoped that everyone will honestly give the new rules a fair trial because, after all, they were made with a view to giving added protection to the boys and young men who are playing the game.

Football Innovations

MR. PARKE H. DAVIS, statistician and historian of American collegiate football, has done more than anyone else by way of compiling records and in writing the history of the game. Mr. Davis' experience in football extends over four decades. He was one of the most brilliant players of his time, later coached and then officiated, and since that time has followed the game as few have done.

He credits Walter Heffelfinger with being the first guard to pull out of the line and lead the interference. This was back in 1890 and was first used in the Yale-Princeton game played Thanksgiving Day, November 27th, 1890.

According to Parke Davis, William H. Lewis of Harvard was the first center that he saw use the roving style of play on defense. Mr. Stagg, however, stated in his book some years ago that he employed a loose center when he was coaching at Springfield in 1890.

George Woodruff of Pennsylvania is credited with inventing the guards back formation and of using smashing ends with the center backing up the line.

Mr. A. A. Stagg has contributed as many innovations to the game as, if not more than, any other coach. He is given credit for being the first to use, back in 1890, plays with the ends back of the line. He was also one of the first to employ the principle of the shift. He was one of the first, if not the first, to use the double pass with the forward pass. A few years ago he developed a flanker play and this year he has a very interesting backfield shift that is original with him.

Glenn Warner is credited with first using the crouch start, the clipping block, the single and double wing-back formations and the modern reverses.

Fielding H. Yost has originated many plays that are now commonly used in football. Back in 1901 he used a back in the same way that the "tail-back" is used these days. He has always used, off and on, the nine man line on offense and was the first to devise a simple signaling system. In his book printed back in 1905 he describes a spiral pass which was probably the first publicity given to this type of pass.

It is always difficult to ascribe credit to this or that coach for football innovations. Sometimes it happens that several coaches will hit upon about the same idea at about the same time. Further, some rather obscure coach may devise a play which will be later used by a prominent coach, and the latter consequently may get the credit.

Football coaches are inventive geniuses. One of the most enthralling and interesting phases of coaching has to do with originating ideas, plays and methods designed to deceive the opponents. If the coaches would be interested in having a section in the *ATHLETIC JOURNAL* devoted from time to time to football innovations, we will be glad to publish them.

Under the head of innovations might be classed the unorthodox strategy in starting the season with a large number of plays, as discussed by Carl Snavely of Bucknell in his article in the current issue; or the unusual emphasis placed by R. V. Borleske of Whitman on returning punts. Many coaches will not agree with these two men, but their articles are well worth reading, even though their ideas may not be applicable to all situations.

Only by the use of new methods can football advance. It is this constant threat of the unexpected which gives color to football and makes it the great game of the fall season.

Will the New Rules Speed Up Basketball?

By Ward (Piggy) Lambert
Purdue University

IN order to understand the reason for the new rule in basketball requiring the offensive team to bring the ball to the middle of the floor in ten seconds, we must first review the development of the game and note the causes for such a change. When we look back and study, we at once realize that many ideas of defense and offensive have been introduced, so that the game of basketball as now played is far different from the original game. At first when nine, then seven and, last, five men were on a team, the idea was one of rapid passing to team mates until the opportunity arose for a shot at the basket. The game was one of speed and skill with a minimum of personal contact. The defense was man-to-man, and guarding was done all over the court.

Realizing that the shot for the basket came in the offensive end of the floor, we had arising various ideas of mass defense. The mass defense was successful at first and until teams using fast break attack combined it with various set formations and spread attacks. Some spread attacks have been misnamed "the stall." The mass defense digressed from the original idea, as did the spread idea. By the latter I mean holding the ball in the back court by a team in the lead for the purpose of getting floor space to break into by drawing the defense out. Here we had two conflicting ideas: the exponent of one believed he had a right to get floor space, and the exponent of the other believed he had the right to mass his defense. If the team holding the ball was ahead, the burden (by public opinion and recommendation of the National Association of Basketball Coaches) was put on the defense to go after the ball. There was, however, no rule or penalty to force it to.

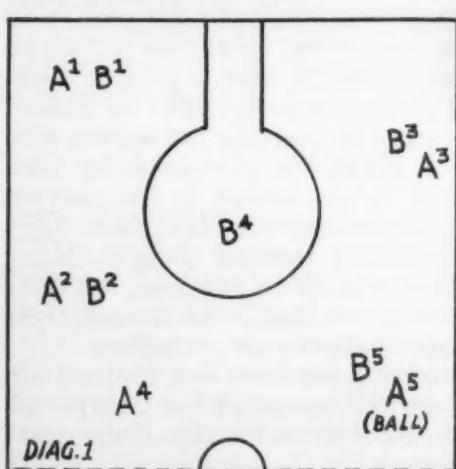
This conflict of opinion often resulted in a farcical exhibition when there was no score on either side or when a coach did not care to take a beating and would hold the ball in the back court even though behind. Such exhibitions were sure to destroy the game which had gained its popularity on *speed and action*.

All the games and sports which have gained popularity with the American public have done so because *speed and skill* have been the predominant factors. Our fans like a contest where there is balance of *offense and defense*, but at the same time contests where there is *scoring*. The general public would rather see the 7 to 6 than the 1 to 0 baseball game. It would rather see the 20 to 14 football game than the 3 to 0, and the 0 to 0 game is unsatisfactory. We like the football team which has a continual scoring threat. The Sharkey-Schmeling fight was unpopular because it lacked *scoring*. The author of baseball

a *balance* of offense and defense was attained. There was a rule (rescinded) taking the dribble out of the game. My opinion at the time was that the mass defense was given a decided advantage and one of the most spectacular offensive threats of the game taken away. Here, surely, the balance of offense and defense was destroyed.

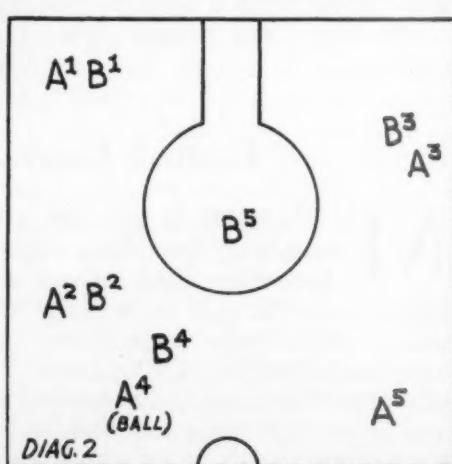
With these points mentioned for the sake of viewpoint, let us analyze the rule change as it now stands. What has really been accomplished? It is very true that the so-called stall in the *back court* has been destroyed. The new rule demands that the ball come to the middle of the floor in ten seconds. This ten second allowance has *not forced* a fast break in the game, as scrimmage will show that the average time to get to the middle will be around five seconds. So the rule really says that most all the offensive and defensive basketball must be played in half the court. In other words, the offense is compelled to come to the defense, which was not the intention of the game originally. If we were to take the jump balls out of basketball we would have a game similar to ice hockey. I am not suggesting this unless we want a game like hockey and not the game of basketball. Hockey is rapidly growing in popularity because of the speed and the fact that the defense goes after the puck (ball).

Mr. L. W. St. John, in his article on the new rules in the *ATHLETIC JOURNAL* of June, 1932, says, ". . . there is every incentive for the defense to employ man-to-man defensive tactics, rather than the massed or zone defense," when the ball is at the middle of the floor. It is true that the new rule gives incentive to employ man-to-man tactics, but the defense will



who designated that the bases be ninety feet apart had an almost perfect idea. Here we have balance of *offense and defense*. This is borne out by the fact that we have so many close plays at first base.

When we played basketball during the time the man with the ball could double dribble, the advantage was too much with the *offense*. When a player was allowed to dribble and could not score after the dribble, the advantage was then with the *defense*. When the player was allowed to dribble and score but not double dribble,



not necessarily do so, although public opinion may think it should. Neither does this new rule mean that the offense will attempt to score though it is behind or even.

I watched a high school game last winter here in Indiana which resulted in a 9 to 9 tie after two overtime periods, and the ball was at or past the middle of the floor most of the time. One team (A), behind or even for most of the game, brought the ball up past mid-floor, and there the two guards, A4 and A5, passed the ball from one to the other. (See Diagrams 1 and 2.) The team (B) on defense used what we call the scissor; that is, B4 or B5 out on the ball and the other dropping back to the foul line. The team (A) in possession of the ball was using a blocking game and wanted the defense to pair off man-to-man so they might accomplish their blocks. The offensive team either had no other style of offense or refused to show it because of approaching tournaments. The defense refused to pair off.

Such a game is within the law of the rules as they are, but the spectator went away from this game displeased because of the *lack of action and scoring*. Here is a case where the team with the ball was behind or even and refused to try to score. *Reverse the situation* and have the A team with the ball ahead all the time. Now the defensive team, realizing that it lacks the power of offense, is willing for the team (A) with the ball to use up time and is

contented with a slight disadvantage in score. It is willing to play for a break in the very last of the game. Thus, this situation can go on to the very last two minutes of the game and the spectators have seen no speed, *action or scoring*. Here the offensive team has brought the ball to the middle of the floor and there has been "every incentive for the defense to employ man-to-man," but it does not. Mr. St. John says, "Isn't team B likely to be recognized rather quickly as the culprit?" Yes, but I believe some specific penalty is needed to stop inactivity, lack of scoring, lack of speed and no contest for the spectators.

Why not put in a rule whereby such offender, either the offense or defense, be penalized a point (not a free throw) when it does not play ball? I am not suggesting how this guilt be decided.

Let us now go back to the question of *balance of offense and defense*. I have already said that the spread idea and the mass defense both have justifiable reasons. The question now arises: What is the fair distance that the offensive team should be allowed to draw a mass defense from the basket and still accomplish the balance of offense and defense? The rules say 45 feet is that distance. Does or does not the massed defense have an advantage? Has not a premium been put on defense now? For the benefit of *scoring*, should not the slight advantage be with the of-

fense if there is to be an edge? It is very likely that the High School Coaches Association of Indiana will adopt a rule whereby the line that the ball be taken to is 45 feet to 50 feet from the basket. The coaches are then thinking that 35 feet is not enough to get this balance of offense and defense.

Would it be fair as a matter of speeding up the game, and that seems to be the agreed idea, to say the ball must come to the middle of the floor in ten seconds and then the farthest it could be taken back would be 55 or 60 feet? I suggest this only to stimulate thinking and emphasize the point that we must arrive at fairness and balance of offense and defense. Unquestionably, the new rule is an advance step toward killing farcical exhibitions in basketball, but I do not believe a satisfactory end has yet been attained.

The new rule does not guarantee the public that it is going to see a game of speed and action, although teams must bring the ball to mid-floor in ten seconds. This is really not a demand for speed. It is questionable whether scoring will be increased, a factor that surely holds the public to the game of basketball. If the defense now has the edge, there will not be so much scoring. This is still debatable. Because defense and offense are confined to one-half of the floor, the number of jump balls will probably be increased, which does not speed up the game.

Physical Medicine Applied to Athletic Injuries

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THE seemingly miraculous results obtained by trainers in the treatment of athletic injuries have been a source of wonderment to most members of the medical profession. When one reviews the literature in an endeavor to learn the methods by which these results are obtained, the search is in vain. It seems that those best qualified to write on the subject of athletic injuries have not published their techniques.

The business man who sprains his ankle by falling over a rug is just as anxious to return to the battle of business life as the athlete is to the gridiron battle. As a result of the demands of its patients for better and speedier techniques in treating such injuries, the medical profession is developing a new specialty to be known as *physical medicine*. Courses in physical medicine or physical therapy are part of the regular curriculum of nearly every

medical college. The Council on Physical Therapy of the American Medical Association has given the following physical measures as having therapeutic value:

1. *Thermotherapy—Heat Treatment—Natural and Artificial*: The equipment used to supply the heat is diathermy, electric pads, hot water bags and bottles, hot dry packs, and the combination of heat with light, phototherapy lamps and cabinet baths, and of heat with water.

2. *Hydrotherapy—Water Treatment*: The water treatment used is hot and cold showers and douches, hot and cold packs, whirlpool baths and swimming pool.

3. *Photo or Heliotherapy—Light Treatment*: Sunlight therapy is given by means of artificial light, such as mercury arc quartz lamp or ultra violet machines, a carbon arc lamp, or incandescent lamp. X-ray and radium treatment are also included under this heading.

4. *Electrotherapy—Electric Treatment*: The galvanic, faradic and sinusoidal currents, static electricity, ionization and combinations of these.

5. *Massage*: The manipulations used are manual percussion, such as stroking, sedative type and brisk kneading type; manipulative, such as stretching, pulling and corrective.

6. *Therapeutic Exercises*: Passive and active exercises, muscle training exercises, mechanotherapy, occupational therapy and games.

It is evident that the knowledge of the medical profession in physiology, anatomy, pathology, etc., when applied to the diagnosis and treatment of injuries, will make for more consistent results. For the benefit of those who are to follow the great trainers of the present day, empiricism must give way to the scientific study. For a number of years one of the authors has

been treating athletic injuries as practiced by most trainers. In addition, an effort has been made to justify the techniques adopted by scientific investigations. Let us illustrate the above statement by a hypothetical case. A shot putter came to the trainer for treatment. In qualifying for the finals, which were to be started in ten minutes, the pectoralis major muscle of the chest and the biceps muscle of the arm were in a state of absolute fatigue. What method of treatment would give the best results in ten minutes? Lamb¹ found by scientific experimentation that after localized absolute fatigue of a muscle, with ten minutes (1) rest the muscle performed 82.2% of its initial effort, (2) radiant heat enabled the muscle to do 19.1% more than rest alone, (3) massage enabled the muscle to do 25.8% more than rest alone, (4) galvanism enabled the muscle to do 28.1% more than rest alone. All things being equal, the trainer using galvanism would send his men into the finals in the best condition.

In order to understand how students trained in the science of physical medicine will be taught to study a case, the most common disabling joint injury among athletes will be discussed.

Injury to the Knee Joint

In an attempted end run the star half-back was tackled and thrown heavily to the ground. After the mass was untangled the ball-carrier failed to rise. It was evident that the injury was to the knee joint and that this player would be unable to continue in the game. He was helped off the field by his team mates and the trained physician in physical medicine took charge of the case.

What Are the Thoughts Which Flash Through the Mind of This Physician?

The knee joint is one of the most powerful joints in the body and its great strength is due to the number and strength of its ligaments. The joint derives no support from the bones, for the ends of the bones which form the joint consist of only two rounded condyles. Therefore, in ninety-nine cases in a hundred it is an injury to a ligament.

The motion of the joint is like a hinge-motion from front to back. The ligaments allow no other motion when the leg is straight, but, when flexed, rotation to some extent is possible. As the player was running, the knees were flexed; therefore, it is probable that the tackler hit the leg when flexed, which would cause an increased rotation of the joint and thus overstretch ligaments and produce a sprain.

The ligaments have been placed in every possible position to strengthen the joint. There is one on the front (anterior), one on the back (posterior), two on the outside (long and short external laterals), one on

the inside (internal lateral) and one surrounding the joint (capsular), making six external ligaments. Inside there are two wedge-shaped pieces of cartilage lying flat on the tibia (internal and external semilunar); two ligaments which run through the middle of the joint (crucials); and three ligaments which hold the semilunars in place (two coronary and one transverse). Inside the joint there is a moist membrane that secretes a fluid (synovial fluid) for lubrication of the part.

Which Ligaments or Cartilages of the Joint Have Been Injured?

With the force striking the outside of the knee joint, one can assume in almost every case that the injury is to structures on the inner side of the knee. The two structures which suffer in 98 per cent of the cases are the internal lateral ligament or the internal semilunar cartilage, or both.

How Can One Diagnose Which of the Ligaments Is Injured?

When one considers the close relationship between these two structures, it is easy to realize the difficulty of tearing the ligament without injuring the cartilage, for they are attached. If the leg is flexed and cannot be straightened, a condition known as "knee-lock" may be said to exist. This is due to a dislocation of the semilunar cartilage. If the leg can be fully extended, a diagnosis of injury to the internal lateral ligament may be made, though one cannot say definitely that the cartilage has not been injured. In both types of injury there is tenderness on pressure at the tibial insertion of internal ligament which is at the inside of the leg on a line with the bottom of the knee-cap.

What Must Be the Treatment if There Is a "Knee-Lock"?

The internal cartilage is caught between the thigh bone (femur) and a leg bone (tibia). In order to free the cartilage the space must be widened. The method which may be used to accomplish this is as follows:

1. Flex the leg on the thigh and the thigh on the chest. This will increase the size of the space.
2. With one hand on the outside of the knee and the other grasping the ankle, rotate the flexed knee inward. This will relax all the ligaments and tendons on the inside of the leg.
3. The patient is then instructed to kick as hard as he can on the count of three. While the patient kicks, the physician assists him by forcing the thigh downward and the leg upward. (Whitelock.)

How Do These Injuries Affect the Joint?

One of the most interesting peculiarities of nature is that whenever a moist membrane is irritated, whether by blows, poisons, or foreign substance, she tries to wash away the cause of the irritation. If toxic substances are taken into the stomach, we may vomit; if they reach the intestines, diarrhea results; if they get into the eye,

it "waters." So we find that whenever the knee-joint is irritated by a blow or twist, it increases the amount of lubricant (synovial fluid) in the joint. This synovitis, or so-called "water-on-the-knee," is always a sign of joint irritation. Individuals often complain of a knee-joint injury because of pain and stiffness around the joint. If twenty-four hours have elapsed since the injury and there is no increased amount of synovial fluid, one can say with assurance that the cause of the present symptoms is due to conditions outside of the knee-joint. This point is extremely important from the standpoint of prognosis, as injuries to muscles, tendons and bursae usually heal more rapidly than ligaments.

How Can a Diagnosis of "Water-on-the-Knee" Be Made?

In order to diagnose synovitis of the knee-joint, have the individual sit on a table with the leg fully extended and the muscles relaxed. When relaxation is obtained, the patella will be freely movable. Place the thumb of each hand on the center of the patella and the index fingers on each side of the knee-joint, the fingers pointing toward the patient's foot. Press the index fingers between the patella and the underlying bones and then press the thumbs quickly and firmly on the patella until it strikes the underlying bones. If an increased amount of fluid is present, one can feel the resistance as the patella is forced through the fluid and the tap as the bones strike together. If there is no increase in the synovial fluid the patella remains in contact with the underlying bones. Until one has mastered this technique the successful diagnosis, prognosis and physiological treatment of knee-joint injuries is not possible.

What Is Synovial Fluid?

There has been very little experimental study of this fluid, though its importance in joint movement has never been questioned. The composition of synovial fluid is not constant but is different in various joints at rest and in motion. It differs from lymph in that it contains a mucin-like constituent, the exact nature of which is not known. When oily substances have been injected into the joint for lubricating purposes, they are absorbed by the tissues. Kling² believes that the synovial fluid is best developed in the knee-joint, which may account for its rapid accumulation in knee-joint injuries. When one reads that in the treatment for acute synovitis "the knee is immobilized in a plaster-of-Paris cast and kept quiet for weeks" it is well to remember the statement of Kling that motion is the natural stimulus for the secretion of synovial fluid, as is food for the secretion of gastric juices. It would seem from this statement that there is little danger of a stiff joint if motion is started early in the treatment. The detrimental effects occur when immobilization interferes with

¹ Lamb, A., "Localized Fatigue and Recovery." Jr. Am. Phy. Ed. Assn., Nov., 1926.

² Kling, D. H., "The Nature and Origin of Synovial Fluid." Arch. Surg. 23: 543, Oct., 1931.



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the secretion in a joint highly adapted to it.
What Is the Best Method of Treating an Injury to the Internal Lateral Ligament?

1. The patient should not be allowed to place any weight on the injured leg. As soon as the dressing room is reached it is advisable to apply cold to the joint. This can be done by placing the part under a cold water faucet or applying an ice bag to the joint. The cold reduces the inflammation and thus prevents a further increase of the synovial fluid. This preliminary treatment is advisable for any type of acute knee-joint injury.

2. As soon as possible the injured player should be transported to his home or the college infirmary. The cold treatment should be continued for at least twenty-four hours while the patient is in bed.

3. On the third day after the injury, heat should be applied by means of an infra-red generator, photo-thermal light or diathermy. After the leg has become thoroughly heated, massage in the form of effleurage should be applied over the joint with deep stroking and friction above and below the injured part.

4. On the fourth day the patient should be allowed up on crutches with the limb unsplinted. He should proceed to active motion of the knee through a limited range several times a day.

5. On the fifth and sixth days this range of active motion should be increased.

6. One week after the injury the patient is permitted a little weight bearing on the injured leg, and if he feels no pain he may gradually increase the amount of weight bearing and the range of voluntary movements during the following days. When placing the foot on the ground the patient should be instructed "to deviate his body weight from the ligament by walking with his toe turned in. The inner side of the foot should also be raised a quarter of an inch to relieve the strain on the ligament."³

If the patient has successfully accomplished the preceding steps without increasing the swelling, pain or stiffness in the joint, he may begin to walk with a single crutch used on the injured side. After a few days a cane may be substituted for the crutch and later this may be discarded. As soon as the patient is placed on crutches the daily treatment of baking, diathermy, massage, cold and warm baths, controlled exercises and rest should be applied. These are the chief aids to the recovery of the joint.

Why Are These Forms of Treatment the Chief Aid to the Joint's Recovery?

The application of cold was to cause a constriction of the torn blood vessels in the tissues and thus prevent internal hemorrhage. It likewise reduces the irritation in the joint and thus limits the excess secretion of synovial fluid. As a rule

the earlier the cold is applied the better the results obtained. In an injury to the ligaments of the knee one can feel assured that the tissues in and about the joint are likewise injured. The muscles are hypertonic; there is hemorrhage into the tissues from the torn capillaries, while the part is painful because of the injured nerves. Treatment is instituted to relax the muscles, dilate the blood vessels, relieve the pain and remove the exudate from the tissues. The best methods now available for this purpose are heat and massage. The heat lamp is placed over the part for its action on the superficial parts, while diathermy is used for the same purpose in the deeper structures. When the muscles are relaxed, the blood vessels dilated and the pain relieved, massage then is applied to move the exudate from the tissues into the general circulation and to bring arterial blood to the part to heal the injured tissue.

Some basic physiological laws which justify this treatment are:

1. Cold contracts and heat relaxes.
2. Muscular movement is the chief factor in returning blood to the heart. If there is no active muscular movement, massage is the next best method of moving exudates and keeping up the muscular tone.
3. Function makes structure. If a muscle is not used, then atrophy occurs; therefore, early active movement should begin as soon as possible.
4. As a muscle gets stronger it becomes shorter. The capsular ligament of the knee is strengthened by bands from vasti, vastus intermedius, semi-membranosus, biceps and sartorius tendons. By increasing the tonicity and strength of these muscles by massage, cold and exercise, the joint will be strengthened.

What Are the Methods to Be Used in Strengthening and Protecting the Joint with an Injured Internal Lateral Ligament?

In injuries of this nature the joint seldom if ever regains its normal strength. Changes in the weather or lowering of the body resistance often cause pain and weakness in the injured part. Studies conducted at the Mayo Clinic have demonstrated the accuracy of patients with joint pathology prognosticating changes in the weather. In order to strengthen the joint one must look to structures other than the ligaments. It is a physiological axiom that the stronger the muscle the shorter it becomes. If the tonicity and strength of the muscles and tendons of the thigh and leg are increased, they will become shorter and thus assist in supporting the joint. One of the best methods of accomplishing this is to place the part under the cold faucet or shower for five minutes every night and morning. Exercises such as running, bicycling, knee bends, etc., increase the muscular strength of the thigh and leg. All

exercises should be performed with the foot inverted, the so-called "pigeon-toed" position, in order to relieve the strain on the internal lateral ligament. Exercises which require quick starting and stopping should not be tried without a protective brace for at least six months after the accident.

The essential points of a good knee brace are as follows: (1) The circular splints which are applied above and below the joint should be well padded, covered with a soft leather and made so they may be laced or buckled in the front. (2) The braces which are placed on each side of the knee should be made of steel, firmly attached to the splints and well hinged at the knee joint. (3) After the brace has been applied it should allow free flexion and extension of the joint without any rotation. The circular elastic bandages with braces on the side and roller elastic bandages are worthless as a protection agent in this case. The pressure which they make gives a feeling of security which is not justified, and they likewise affect the return flow of blood. With a properly fitted brace many athletes have continued participation in competitive games for their entire college career.

How Does the Treatment of a Semilunar Cartilage Dislocation Differ from That of an Internal Lateral Ligament?

The treatment as outlined for synovitis (cold applications) is indicated in any sprain or strain of a joint. If there has been a definite diagnosis of a cartilage dislocation (knee-lock), then permanent relief can be obtained only by sewing the cartilage in place or removing it entirely. The removal of the cartilage does not seem to interfere with the normal functioning of the joint. This operation should be performed only by a skilled orthopedic surgeon. There is no brace made which will hold the cartilage in position. An individual may play a game of basketball and have no trouble with his knee, but in stepping down a stair the cartilage may slip and the "knee-lock" result. It is important to emphasize the necessity of an operation, as repeated dislocations cause changes in other structures of the joint which may interfere with its normal functioning in later years.

What Is the Difference Between the Methods Outlined and the Present Day Practices of Trainers?

The only answer which can be truthfully given to this question is—perhaps nothing. The justification for the publication of this article is (1) the desire of those members of the medical profession interested in physical medicine to inform those outside of the profession of the methods which they are using; (2) to motivate trainers and coaches to publish articles of a similar nature. It is only by the mutual interchange of knowledge that Physical Medicine can attain its rightful place as a specialty.

³ Jones, R., and Lovett, R. W., "Orthopedic Surgery," Wm. Wood & Co., New York.

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Warming Up Exercises

By W. B. McKittrick
Arcata, California, High School

WARMING up a team before a basketball game is extremely important, and often it is not thoroughly accomplished. The result is that a team makes a poor start while its opponents get the "jump." As a consequence, it has an uphill battle to fight, if the two squads are of about equal strength. Too little attention to the art of being ready when the game starts accounts for the fact that many teams are not quite up to par during the first quarter.

One of the oldest exercises used for warm-up work is probably the one in which the players followed each other in a circle underneath the basket, shooting from the point where the ball was retrieved. The shooting exercise was not so bad, but the players did not get enough practice in passing the ball.

To speed up the exercise, coaches began to place half of their squads on each side of the basket facing the backboard at about a 45 degree angle. One side passed to players on the other side, who would shoot and then go to the rear of the passing line. The player passing would go to the end of the shooting line. In this way, the players passed as often as they shot—a great improvement over the old circle exercise.

A very good passing and shooting formation (Diagram 1) is that in which all the players line up on one side of the basket with the exception of player A, who stands near the back of the foul circle with the ball. A passes to B as he cuts for the basket. B shoots and continues to the foul circle, while A, after passing, moves in a crouched position, to take the ball off the backboard and pass it to B. B then passes to C and the exercise is repeated indefinitely. Each player shoots once, passes twice, and takes the ball off the backboard once.

A passing exercise (Diagram 2) in which ten players may be used is one in which two men are placed a few feet from the corners of the floor. Two more are placed on the side lines even with the foul line; a third on one side nearly to the center of the floor. A dribbles across the court and passes to B. B passes to C, C to D, and D to E. E then passes to A, who has made a circle so as to come in on the opposite

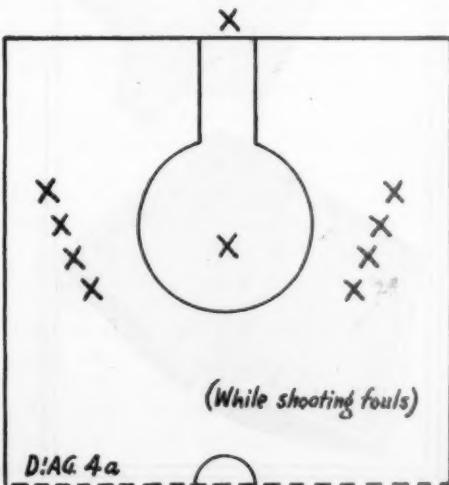
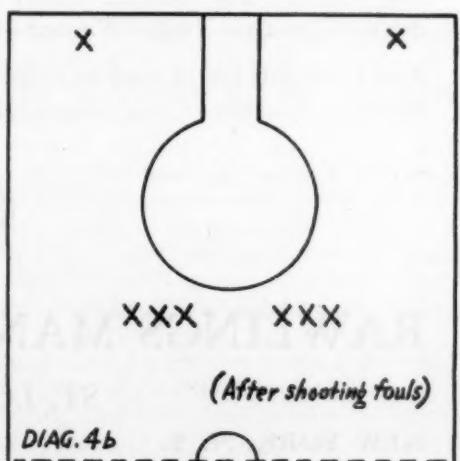
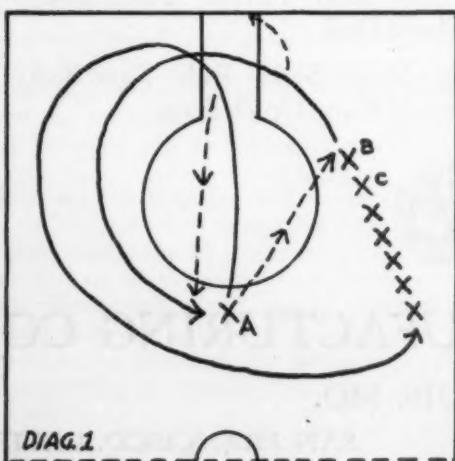
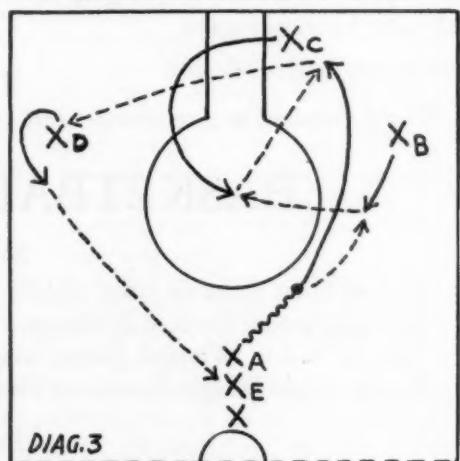
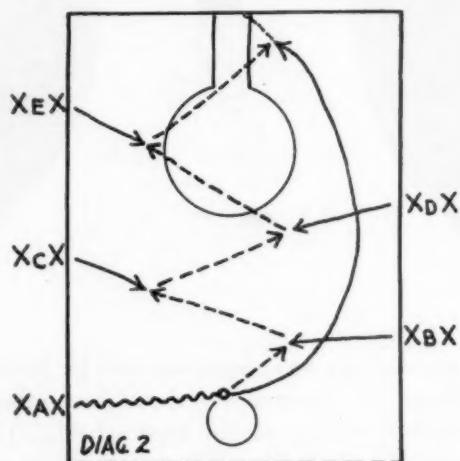
side of the basket. A shoots and returns to his position. E retrieves the ball and passes to A. The second squad starts as soon as A shoots, going through the same passing exercise, while the first squad returns to position. The exercise is speeded up by the use of two balls, since the second squad starts as soon as A of the first squad shoots.

This exercise is good for passing, although it may tend to become rather mechanical. Its weakness as a warming-up exercise is that only one player in each squad gets shooting practice.

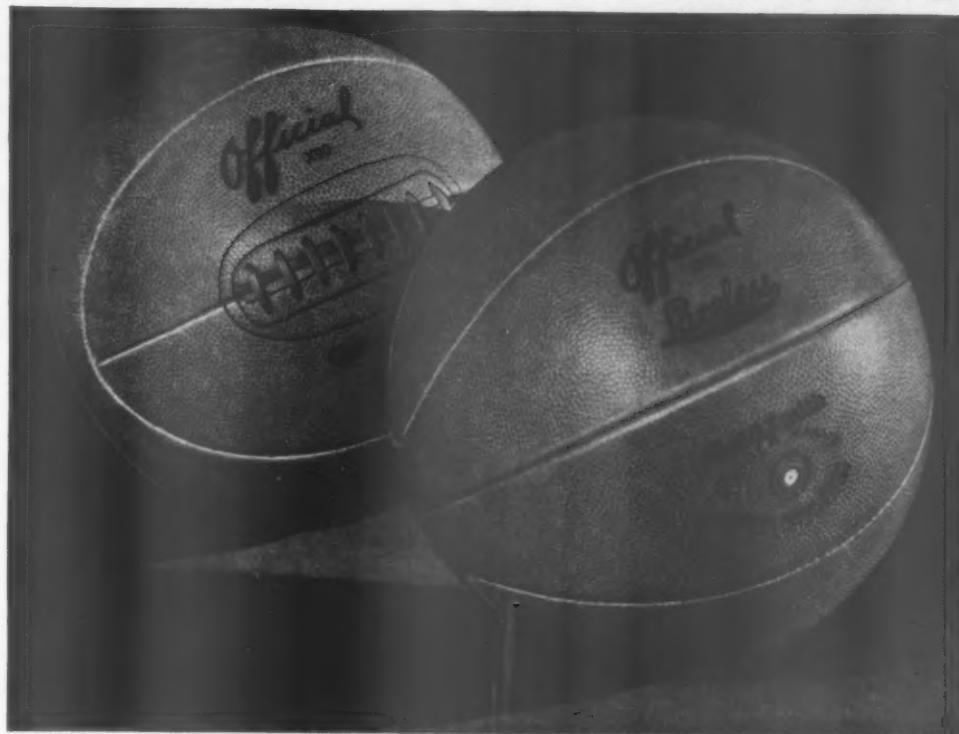
Set plays (Diagram 3) are sometimes used to warm up players also. Two players may be stationed, one on each side of the floor, at about the foul line, another near the basket, a fourth just in front of the center circle, with the rest in a line behind this last man. Several plays may be devised which work to one or both sides. For example, A may dribble to the right, pass to B as he comes out to meet the pass, and then cut to the basket. B will pass to C as he cuts for the foul line and C will pass to A as he comes in to the basket. A fakes to shoot and then passes to D, who pivots and hook-passes to E.

The ball can be kept going continuously with the same players performing, or with the players moving to new positions. D would go to the end of the line and E would take A's place; A would go to B's position, B to C's, and C to D's. Whether or not the players will "carry over" the plays into the game is a question. But at any rate, they can get excellent practice in passing, pivoting and cutting.

But the exercise (Diagrams 4a and 4b) I like best and which can be used to follow the other exercises allows eight or ten men to warm up by using three basketballs and one basket. Four players take one ball midway between the center and side of the



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floor. One shoots and goes in for a follow-up shot and then passes back to another of that group. Four others do the same thing from the other side. At the same time, two players are shooting fouls—one standing well back under the basket so as not to get hit or interfere with the players shooting from the floor.

I like to have the players dribble in for short shots about two out of three times. The third time they shoot from about the distance of the foul circle or just outside of it, and follow in for a short goal if the long shot is missed.

As one player finishes shooting fouls, he takes his place under the basket, while the boy who has been retrieving goes to the

squad on the right, sending one of these players to the foul line. As soon as all in that squad have finished, players go to the squad on the left and send one to shoot fouls. In this way they get practice in shooting and dribbling from both sides.

As soon as each player has had his practice from the foul line, the two starting forwards take the ball and commence shooting and following up their shots from the corners. The other two squads move closer together and get their practice from nearer the center of the floor, both in shooting and dribbling in.

Six, eight, or ten players may be warmed up by this method by having either two, three or four in the two groups shooting

from the floor. Balls will collide in the air and at the basket, but that will make little difference. The players soon become business-like about it and will scarcely notice these collisions. They can work hard in passing, dribbling, shooting and pivoting.

A thorough round of these exercises will enable a team to pass and shoot to the maximum of its ability as soon as the game commences, and no valuable time will be lost during the opening minutes of the game itself. This is the time when a team should, if possible, get the "jump" on its opponents. This lead, if the teams are evenly matched, may decide the issue in favor of the team that was "rarin' to go" at the opening whistle.

The Intergroup System of Intramural Athletics for the Small High School

By H. Harrison Clarke

Director of Intramural Athletics, Syracuse University

THE intergroup system of intramural athletics is a program of athletics for all, designed especially for the small high school. It is the culmination of five years of investigation and experimentation in the development of an intramural program at Chautauqua High School, Chautauqua, New York. It has met with success and satisfaction among the students of this school as is indicated by the results obtained. During the last year of its use by the writer, 100 per cent participation was obtained among the boys in the senior and junior high schools. Of the boys who had been in school for the entire year, 94.3 per cent participated in at least six athletic activities.

Educational Advantages

In the establishment of the intramural program described, certain educational objectives were kept definitely in mind. The following were particularly stressed:

1. *Equalization of the playing abilities of teams.* It was felt that the playing abilities of teams should be as nearly equal as possible. This was in accord with Roger's "Doctrine of Equality," in which he states: "In competitive activities educational objectives will be achieved most effectively only when the powers of competing individuals or teams have been equalized."

Equality of teams is the heart of the intergroup plan as competition between the group teams is very even. This is especially important on the secondary school level as the difference in maturity, experience and ability of students in the first and last years is pronounced when some form of the interclass idea is used, as is commonly the case. This is especially true of the small school.

2. *Player control.* The selection of the teams and the playing of the games were entirely in the hands of the players. The players mapped out their own strategy of play, and in many cases with remarkably good results. The officiating of games was for the most part done by the students with efficiency and satisfaction. Valuable lessons in initiative and leadership were thus realized by the students, and the games in a very real sense were placed in the hands of the players.

The "player control" idea was carried a step farther and the leadership for conducting the program was placed in the hands of students. Through a graded managerial system students assumed the responsibility for organizing and conducting the games. At the end of a sports' season the manager of each sport turned into the physical director's office a detailed account of the season's play, including the relative standing of the teams participating. It was felt that the type of leadership

developed in this manner was of a superior quality.

3. *Leisure time games.* Sports were encouraged which have a value for use during leisure time either during student days or after graduation. Of course, many of the sports were of a nature that makes the playing of them in later life improbable. However, such sports as horseshoe pitching, tennis, swimming, skating, volley ball and playground ball were included because of their value as leisure time activities. Intramural athletics in this way contributed to the enrichment of the student's future life.

The Intergroup Plan

The intergroup plan divided the entire student body into two equal divisions. The competition was between these two groups, although interclass contests might also have been held if desired. With this division of teams, the best athletes were evenly divided and the resulting contests were usually very close, with tie games a frequent occurrence and a fairly even division of victories in the battery of sports promoted. Second, and occasionally third, team contests were also held. In this way as many students as desired might participate, and the teams were of a fairly even ability regardless of their relative position in the sport. Another advantage, which is of particular significance to the very small high school, was that a number of sports, such as soccer, speedball, baseball, etc., could be included in the schedule. Where the academic classes are small this is often impossible under the interclass plan, as the number of contestants required on these teams is more than the number of available athletes in the class.

The original team selection was the only



H. Harrison Clarke

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REACH BASKETBALLS

time the teams were completely chosen. This original selection was done as follows: Immediately after the beginning of school in the fall, three outstanding athletes were selected by the physical director to represent each team as a committee in the selection of team membership. Each committee was given a high school roll of students and allowed twenty-four hours in which to go over the list, and arrange it according to their liking. This made the choosing more nearly even, as it gave the committees a chance to think of their choices and not choose by snap judgment. At the time of the choosing, every boy in the school was chosen on a team.

These teams were permanent. Once a boy was placed on a group team he remained on it as long as he was in school. This plan gives permanency to the teams which will carry on year after year. Permanency builds tradition.

Each year the teams lost by graduation and other causes, while new pupils entered to take their places. If the loss was unequal the team with the greatest loss was allowed first choice of the new pupils, and received two choices to the others' one until the number on each team was equal. The choosing then went on evenly.

Program of Activities

Student participation was encouraged through the promotion of a wide range of sports. In this way, different interests were reached, as it is unquestionably true that certain sports which will attract one group of students will have little if any appeal to another. Sports included in the program were tennis, horseshoe pitching, soccer, speedball, football goals, playground ball, swimming, basketball, volleyball, skating, gymnastics, foul shooting, baseball, track and track pentathlon. This involved a total of fifteen events.

In organizing the competition, the attempt was to present a limited schedule in a sport and then replace it by another, rather than to conduct competition in the same sport over an entire season. Students were encouraged to participate in as many of the sports as their time and inclination permitted, which accounts for the high degree of student participation alluded to in the opening paragraph of this article. This is defensible from the standpoint that it presents a wide range of athletic activities to the students.

In order properly to present and instruct in the various intramural events, the physical education and intramural programs paralleled each other. Prior to the opening of competition in an intramural activity, the sport was presented in the physical education classes, where the fundamental skills and game rules were taught and a certain amount of team play developed. Thus, a relationship was established between these divisions: the physical education division trained material for intramural play and the intramural pro-

gram acted as an incentive for the physical education class work. This relationship might have been carried a step farther, and it could have been shown that both of these divisions tended to produce athletes for the peak of the triangle, which was the interscholastic team. A definite, tangible, integrated program was the result, all parts of which were closely related to each other with central administration and unified control.

The Scoring Plan

The basis for scoring took the individual as a unit. Instead of giving the team points for winning, each individual on the team received points. In this manner, an individual rating was kept, which stimulated interest among the students. The total of all individual scores on a team equaled the team's score. Another important feature in the scoring was that points were given for participation. Of course, the individual or team winning received a greater number of points. Also, the number of points given was large, for the psychological reason that fifty points look considerably larger than five, even if the proportion is the same.

This type of scoring was a great stimulus to the intramural program. It made individuals eager to belong to a team and swelled the number in tournaments. Rivalry was created by making awards at the end of the year to individuals having the best all-around intramural records. Team loyalty was emphasized by making a team award at the end of the year. Individuals often strove for participation points to help their team, even when they knew they are out of the running for an individual award. And, too, group leaders influenced members of their team to participate in the intramural program because in so doing they added to their total of points. This type of scoring, also, was a means of interesting the individual to get an all-around knowledge of sports instead of specializing in just a few branches.

The Scoring Chart

The explanation of the scoring chart is as follows:

Intergroup Games:

Divide the number of points for win-

ning (100 in most cases) by the number of games played. The result is the number of points awarded for each game won. Three games will be played in most cases. This plan necessitates the actual playing of all three games, as the losing team may win the third match, and thus acquire additional points.

Team Leagues:

Divide the number of points for winning (100 in most cases) by the number of games won by the champion team. The result is the number of points awarded each team for each game won.

Team Tournaments:

Divide the number of points for winning by the number of games won by the champion team. The result is the number of points awarded for each game won.

Individual Tournaments:

Same method as for team tournaments. The individual is scored as though he were a team by himself and is awarded points for the number of matches he wins.

Meets:

Divide the number of points for winning (100 in most cases) by total points made by the high individual scorer in the meet. The result gives the tabulating value for each point won in the meet.

Varsity Athletics:

Self-explanatory. The points for varsity athletics are small compared with the effort involved. The object is to make varsity athletes turn more to other sports for their points.

Note: It should be remembered that the points for participation are added to the above points for games won.

Non-Athletic Activities

This intergroup plan of intramural athletics did not confine itself to athletics alone. It was designed to include all-around development, which involves mental and social qualities as well as physical. Consequently, health and hygiene, leadership, sportsmanship and scholarship were added. The manner in which these were included in the program is indicated in the following paragraphs, which also include the method by which they were scored:

Health and Hygiene:

1. Physical Examination (200 points)

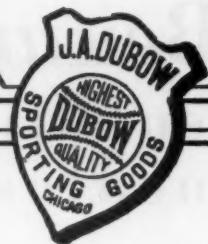
SCORING CHART FOR THE INTERGROUP SYSTEM OF INTRAMURAL ATHLETICS

Intergroup Games	Team Leagues and Tournaments	Individual Tournaments	Meets	Athletics
Baseball	Class	Boxing	Track	Basketball
Basketball	Basketball	Foul shooting	Skating	Tennis
Football goals	Baseball	Gymnastics	Swimming	Track
Horse shoes	Football goals	Horse shoes		
Pentathlon	Horse shoes	Tennis		
Playground ball	Volley ball			
Speedball		Now-hour		
Soccer				
Tennis	Baseball			
Volley ball	Basketball			
<i>Points:</i>				
Entrance 50	Entrance 50	Entrance 25	Entrance 25	Entrance 25
Additional 100	Additional 100	Additional 100	Additional 100	Additional 100
150	150	125	125	200
<i>Points:</i>				
Entrance 25	Squad 75			
2nd team 25	2nd team 25			
Letter 75				

Second team intergroup sports were carried on in tennis, horse shoes, basketball, volleyball and football goals; 25 points were given for entrance in these sports, with 35 under "additional," making a total of 60 points.



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Credit was based on the physical examination given by the school physician. The following defects deducted points:

Decayed tooth or teeth.....100 points
Defective vision100 points
Diseased tonsils100 points
Obstructed nasal passages.....100 points
Defective lungs100 points
Underweight100 points

2. Bonus for Correction

If corrections, as cited, were made, the individual was given a bonus for it equal to the deduction.

3. Theoretical Hygiene Knowledge

(200 points)

Credit was based on the individual's hygiene grade, given as part of the gymnasium work; 50 points were given for passing. The remaining 150 points graded between 75 and 100, or 6 points for each per cent above 50.

Leadership:

Under this head were listed the various types of school leadership. They were graduated, as some required more work and ability than others. To get full credit in leadership, the individual's work had to be of high grade. Full credit was not given if the individual was not dependable:

150 Points:

Captain of Varsity Team
Basketball Manager
Senior Intramural Manager

100 Points:

Cheer Leaders
President Sportsmanship Brotherhood
Junior Sport Manager

125 Points:

Senior Class President
President Athletic Association
Treasurer Athletic Association
Spring Sports Varsity Manager
Unit Sport Manager

35 Points:

Class Officers Not Specified
Other Officers Sportsmanship Brotherhood
Athletic Association Officers Not Specified
Assistant Sport Managers

Sportsmanship: (200 points)

Chautauqua High School was a member of the state-wide Sportsmanship Brotherhood organization. Those elected to receive pins in this organization automatically became members of the Sportsmanship Brotherhood Council, a local high school organization. A member of this Council received 200 points on the scoring chart. All other students might receive as high as 150 points, and as low as none at all.

Scholarship: (600 points)

The scoring under scholarship took into consideration the fact that a passing grade of 75 per cent should be awarded and that rarely was a pupil found who exceeded a 95 per cent average for the year. In the scoring, 100 points were given for an average of 75 per cent. The remaining 400

points were distributed between 75 and 95 per cent—or 25 points for each per cent over 75.

Girls' Intramural Activities

The program of intramural sports for girls was placed on the same basis as that for boys. The point system and awards were identical. The sports, however, were especially adapted for girls. The following sports were used with success: basketball, field hockey, foul shooting, horseshoe pitching, kick ball, playground ball, posture contests, target throw, tennis, track and volley ball.

Conclusion

Intramural athletics, which provide opportunities for all students to participate in sports, have become increasingly favored in our public schools and colleges. There has been a conscious trend in many educational institutions away from an over-emphasis on varsity sports and towards a program of sports for all, as is embodied in the intramural program.

The varsity team is highly important because of its motivating influence and the lessons in sportsmanship which are taught directly to a small number and indirectly to the entire student body. However, a program of varsity athletics alone, where only a few who are on the squad receive the benefit, is a serious mistake. It is quite easy at the height of the season to over-emphasize and overglorify the varsity team. An intramural program gives an opportunity for all pupils, no matter how low in athletic ability, to participate in competitive sports, and to alleviate somewhat the stress placed on the performance of the few. The "intergroup system" described in this article is one method which has successfully accomplished this in a small high school.

Illinois State Physical Education Association

Membership in the newly organized Illinois Physical Education Association is open to any one in the allied fields of physical education: principals, teachers, coaches, nurses, physical educators, community and recreation directors, Y. M. C. A. and other similar directors.

Two meetings are planned: one during the High School Conference at the University of Illinois each November and one each spring. The spring meeting to be distributed about the state.

The officers of the association are:

President: Mr. S. C. Staley, University of Illinois, Urbana.

Vice-President (first): Mr. Jack Lipe, Harvey, Illinois.

Vice-President (second): Mr. LaRue Van Meter, Athletic Director, Illinois College, Jacksonville, Illinois.

Secretary-Treasurer: Mr. Louis Kulinski, State Supervisor of Physical Education, Springfield, Illinois.

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What are the advantages of the various styles of play?
When should defenses be varied?
How can a basket "eye" be developed?
What are the advantages of the various styles of defense?
What are the underlying principles of the Lambert fast break system?
How are special defenses set up?
What is the proper footwork in guarding?
What drill should be used for proper offensive footwork?
What value have out-of-bounds plays?
How can effective center tip formations be developed?*

These and countless other basketball questions are answered by Ward (Piggy) Lambert, producer of basketball champions at Purdue University, in his valuable book, *Practical Basketball*, to be published in November.

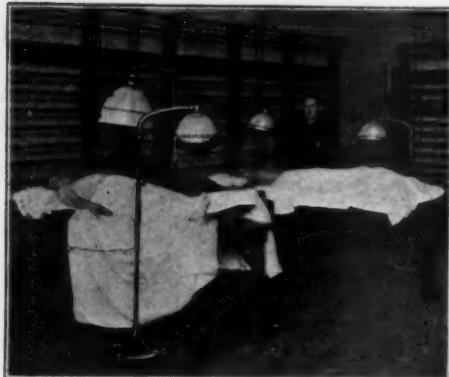
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A MINISTER LOOKS AT FOOTBALL

Rev. H. G. Klemme
Grand Forks, N. D.

THE question in my case is simple. Do I want those stalwart young boys of mine to go out for football? Every objection to the game will be fairly met in the mind of a father, when it is his own son whose interest and welfare are at heart. Every argument for the game, as well, will get a just hearing.

If my boys do as I wish, they will try to play football. For over twenty years I have known football players and football coaches intimately. The effect of the game on young men and young manhood has been carefully noted. I find it good.

It shall not be my purpose to rob my sons of the zest that surges through the blood as muscles and mind co-ordinate to make a line buck effective—no, not even if I am convinced that in a few places and under a few coaches the game itself has become a viciously publicized, overemphasized example of gladiatorial sacrifice. It shall not be my purpose to take away from my own sons that well-remembered thrill of reaching high and far for the pass that means victory, of tucking the ball under the arm, and then those exultant strides the last few yards to the goal line. No, I shall not take that away from them, even though I am convinced that in some places victory is purchased at too great a cost, so that while a season may have been triumphant, the character of men playing may have been despoiled.

We Americans are still too thermometric in our sport loyalties. It is all enthusiasm or all criticism. Nor is it quite clear why the very people who urge our sport affections to the peak should be the first to thrust them off the pinnacle. The grand old game deserves a better fate. It is constantly bettering itself, enriching its appeal, minimizing its danger. The men who coach it and the men who play it are almost unanimous in their love for it. But if the public insists on a game without an element of danger, without the possibility of accidents, it is asking for something which no game can guarantee. Where muscle strains against muscle, and bone withstands bone, there must sooner or later be accidents. I have seen them happen and have grieved over broken bones and even at death.

But the fact remains that life itself is a pretty rugged game. It calls for the things that football can give, and does give in a multitude of cases. There is a kinship remaining in football which teaches lessons seldom learned away from the field. There is a training provided which may be invaluable in the days when these men will play the game without cheering thousands to urge them on. This training cannot be had in any field of life without hurts and bruises and pain. It is one of the laws of

character that it grows hardy through hardihood.

When my boys go to school I shall look at the coach quite carefully. I know what an influence he will have—how much he may do to help or hinder their moral and physical growth. But here again, I am not afraid of the game. It was my privilege to sit in at a banquet of the National Football Coaches Association during the last summer. It was an occasion of wit and humor, with no serious plans or intentions. But I was impressed by the unquenchable native idealism that crept almost unbidden into the brief remarks of the speakers. To hear Alonzo Stagg proclaim his faith in the "Game" as over against the mere idea of "Victory"—to hear him tell of the joy that had been his of knowing men who could lose games without losing heart or courage—that was to hear a word from the usually "silent zone" of a coach's experience. Nor can I forget Howard Jones' pleading for mutual support among coaches; for recognition of the frequently obscured fact that losing years and losing teams may not at all be reflections on coaches in charge. That was to behold a profession coming into its own.

By all means, let us have sanity in football—sanity in schedules, sanity in training, sanity in publicity, sanity in expectations. But surely we can strike a balance without striking a blow at a fine game. There is no evil associated with football which may not be eliminated by the expenditure of energies and devotion no greater than those which have built the game into its present appeal.

Personally, I have seen too many young men come out of their football experience with eyes clear, mind and morals poised, and soul steeled for the greater conflict on the field of life to want to take away from my boys the privilege that may be theirs.

Football Rules, Changes and Interpretations

Rules Committees Changes

THE following changes in the 1932 football rules were made by the Rules Committee subsequent to the publication thereof. It is suggested that coaches and officials make notations in their rule books of these changes.

Rule 4, Section 3, Article 4, First A. R., Page 17—As this calls for a penalty for "delay of game", no "time out" should be charged.

Rule 6, Section 2, Page 21—See interpretation of Rule 12, Section 5.

Rule 7, Section 5, New Supplemental Note, Pages 28-32 (Also Rule 12, Section

7.)—The term "ineligible player" is used to designate a player originally ineligible or one who has become so by going out-of-bounds.

Rule 7, Section 7, Article 2, A. R., Page 35—Insert the words "or falls" after the word "downed" and strike out words "while in the grasp of the tackler."

Rule 8, Section 1, Article 3, Supplemental Note, Page 37—Change wording in second and third lines to read "and opponents must get out of his way," etc.

Rule 10, Section 1, Article 2. Add new sentence: Page 47—When the ball has been kicked, players of the kicker's team may use their hands and arms to ward off or push opponents who are attempting to block them.

Rule 12, Section 5, Third Paragraph, Page 55—If this penalty is enforced, the provisions of Rule 6, Section 2, Article 1, do not apply.

Rule 12, Section 7, Third Paragraph, Page 56—Change wording to read, "In any other case of a foul by the team on defense", etc.

Western Conference Interpretations

The following are the results of the Western Conference coaches and officials' meeting of 1932 and those interpretations which are still in effect from former years.

1. Rule 3, Section 9, Article 1. *Question*—(1) May Team "B" make a fair catch on the kickoff?

Answer—Yes.

Question—(2) May Team "A" make a fair catch on the kickoff?

Answer—No.

2. Rule 3, Section 10, Page 6. *Question*—Team "A" in its own end zone. A player of Team "A" steps over the end line. "B" is offside in the line. When "A" steps over the end line shall this be considered as a foul which is offset by "B's" foul in the line?

Answer—Yes. This is a specific ruling for the Conference.

3. Rule 3, Section 21, Article 1, Page 9—When a player in possession of the ball crosses the side line and the ball remains in the field of play, the ball will be considered out of bounds.

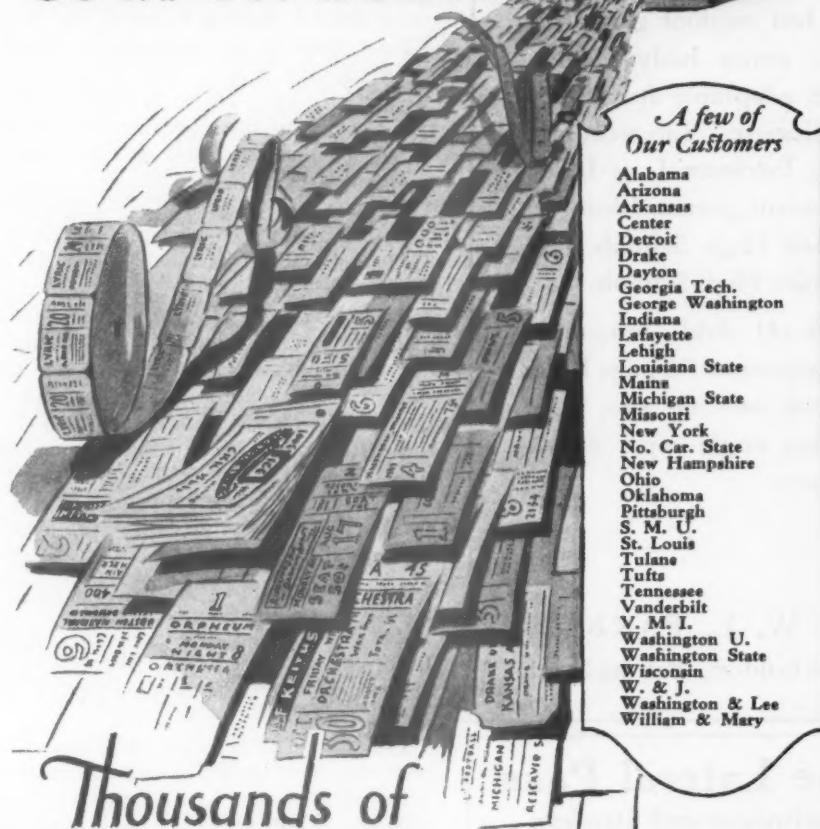
On side line plays where the officials are in doubt as to whether a player carrying the ball touched the side line as the ball was downed or deliberately touched the side line with his arm or foot after the ball was downed, it was agreed that the player would be given the benefit of the doubt.

IF A PLAYER CARRYING THE BALL TOUCHES A PERSON OTHER THAN A PLAYER OR OFFICIAL WHO IS STANDING ON THE SIDE LINE, OR END LINE, IS THE BALL OUT OF BOUNDS? RULING: YES.

4. Rule 3, Section 30, Page 11. *Question*—(1) A back fades back just before the ball is snapped and another player who is standing goes to a full crouch while the other half is moving; the ball is passed

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while both are moving. Is this to be considered as a shift and simultaneously CHANGING POSITION and a penalty or not?

Answer—If the second player, while another is in motion toward his own goal line, makes any deliberate motions which may be construed as attempts to draw the opponents offside he shall be penalized under Rule 7, Section 3, Article 4. This will not, however, be construed as coming under the shift rule.

Question—(2). Team "A" back in motion toward his own goal line and Team "A" end moving laterally. Is this a shift?

Answer—Yes.

Question—(3). Team "A" back in motion toward his own goal line and Team "A" guard offside in the line. Is this a violation of the shift rule?

Answer—If no shift has been made the man offside in the line will be penalized under the offside rule and not under the shift rule. If following a shift a man in the line is offside before a second has elapsed he will be penalized under the shift rule. Covered A. R. "E" Page 26.

5. Rule 3, Section 32. **Question**—(1). In the play where the center passes the ball out of bounds, in the event that he passes the ball forward how should he be penalized?

Answer—He should be penalized under Rule 7, Section 3, Rule 3, Section 30, for not putting the ball in play properly. The ball is dead.

Question—(2). The center attempts to pass the ball backward out of bounds. The ball, however, hits an opponent and rolls out of bounds at a spot behind the "A" team center.

Answer—The ball belongs to "B" at the spot where it crossed the side line.

6. Rule 4, Section 1, Article 1, Item 3. **Question**—Is the referee's watch to be accepted as the official time piece in deciding the time for the beginning of the game?

Answer—Yes.

7. Rule 4, Section 3, Article 1, A. R. **Question**—Should the field judge stop his watch when he, the umpire, or headlinesman calls the foul until the referee blows his whistle?

Answer—The field judge cannot stop the watch on fouls that have been called by others than the referee until the referee blows his whistle and declares the ball dead. The field judge, however, may stop his watch on out of bounds plays, incompletely passed, touchdowns, touchbacks, and safeties before the referee blows his whistle on such plays.

Rule 4, Section 3, Article 2, 1st Paragraph, Page 15. **Question**—Is the duration of delay when charged to Referee for the removal only of the injured player or is it permissible to attempt to revive player who is designated as the injured player?

Answer—"Time out" should only be for the removal of the player and not at-

tempting to revive player, unless team requesting "time out" desires to attempt to revive him, in which event "time out" is charged to injured player's team.

9. Rule 4, Section 3, Article 4. Approved Ruling and Supplemental Note. **Question**—In the event of a tie and the team in possession of the ball is satisfied to take a tie, may they send in substitutes and continue to do so during the last PART OF THE GAME, thus killing TIME NEAR THE END OF THE GAME.

Answer—The referee may direct the field judge to stop or not stop the watch.

10. Rule 4, Section 3, Article 5, Page 10. **Question**—May there be successive times out?

Answer—No. Time cannot be taken out until after a play has elapsed. However, the referee must use his judgment in case of unusual events. An injured man must be taken out if given more than two minutes. (Rules Committee Ruling, 1930.)

Rule 5, Section 2, Paragraph 1, Page 18.

Question—May a player withdrawn at the end of the first quarter go to the bench and re-enter the game before the first play of the second quarter.

Answer—No, a play must intervene.

12. Rule 5, Section 3, Page 19. "Special Notes." **Question**—Is the umpire this year responsible for the interpretation of questions relative to the legality of players' equipment?

Answer—Yes.

13. Rule 6, Section 2, Article 1, Page 21. **Question**—(1). Team "A" kicks off out of bounds twice and in each instance a Team "A" man was offside. Does Team "A" kick off again?

Answer—It is "B's" ball on their own 45 yard line. See A. R.

Question—(2). If Team "B" was offside twice and Team "A" kicked out of bounds both times where and how is the ball next put in play?

Answer—"B's" ball on their own 35 yard line.

14. Rule 7, Section 1, Article 3. **Question**—"A" in attempting to run the ball out from behind his own goal line is tackled and the ball comes to rest with the forward point on the field of play and the backward point in the end zone. Is this a down that calls for another play or safety?

Answer—It is a safety. See Page 75, Rule 7, Section 1, Article 3.

15. Rule 7, Section 2, Article 2, Page 24. **Question**—Player of Team "A" charges into the neutral zone and then gets back into position before the ball is snapped. Should this be penalized?

Answer—No, not for encroaching on the neutral zone, unless the player makes a practice of doing this.

16. Rule 7, Section 2, Article 3, Page 24. **Question**—Team "A" has eight men on the line of scrimmage. The left tackle is on the end of the line. He drops back

(Continued on page 40)

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a yard thus uncovering the guard. Is this a violation of Article 3?

Answer—Yes.

17. Rule 7, Section 5, Article 2, Page 29. **Question**—(1). TEAM "A" MAKES AN ILLEGAL FORWARD PASS WHICH IS TOUCHED BY AN ORIGINALLY INELIGIBLE PLAYER AND IS THEN INTERCEPTED BY AN OPPONENT BEFORE TOUCHING THE GROUND. CAN TEAM "B" ADVANCE THE BALL?

Answer—Yes. This is a specific ruling for the conference.

Question—(2). Does an illegal pass which touched the ground become an incomplete pass also?

Answer—Yes. IF A PLAYER THROWS A FORWARD PASS TO THE GROUND IN HIS END ZONE A SAFETY SHOULD BE DECLARED NO MATTER WHAT THE INTENT OF THE PLAYER.

Helps and Hints

Continued from page 19

boys in class B, with each squad having a squad corporal chosen for his leadership and control over the other boys in his squad. In this way we provide for the maximum use of the gym in a 50-minute class period for a class of sixty boys. For example, class A will work on combination dips, class B on pull ups, class C on the rope climb, and class D on the push ups. After five minutes of practice the squads interchange events.

Our typical gym class consists of five minutes of free play; three minutes for class formation, roll call and directions for the period; two minutes for marching tactics; five minutes for calisthenics; twenty-five minutes for work on events; two minutes of marching for "quiet"; eight minutes for showers and dismissal. The class work is supplemented by motor skill tests in football, basketball, volley ball, indoor baseball and Brace's scale of motor ability tests. The maximum requirements for the horizontal bar, parallel bars, horse, mat work and the springboard are easy vaults and tumbles. Apparatus work is not emphasized but introduced so that if the boys like the work they can specialize later in it at the high school.

Physical education classes meet out-of-doors when the weather permits; thus, we are compelled to stay in the gym only about three months of the year. A special gym uniform is used in all classes, and the students are required to take a shower after each class period. Physical education is compulsory in our schools, a student being excused only on a physician's advice in extreme cases of disability. One credit per year is given for physical education, three being required for graduation. Schol-

arship marks in physical education are on a par with marks in any of the other so-called promotional subjects.

INTRAMURAL ATHLETICS—The intramural program provides an opportunity for every student to engage in some great team game. It also provides a chance to become adept in some sport, such as tennis, golf, swimming or handball, that has a carry-over value. The intramural program includes 96 per cent of our student body in some activity.

Intramural schedules for boys in three classifications are run off in the following sports: football, basketball, volley ball, playground baseball and track. Tournaments are staged in tennis singles and doubles, handball singles, golf and basketball shooting. The local golf courses are open all the year around, and, since a junior membership may be obtained for ten dollars, an unusually large number of boys play golf. The tennis courts are made of macadam, which makes them accessible all the year. Through the courtesy of the local Y. M. C. A., swimming is included as an activity in our program. An athletic club is organized by boys especially interested in boxing and wrestling. Tournaments are staged in the three classifications. This club meets regularly once a week during school time.

The three classifications of boys for all the intramural sports are based on the strength index of each student. Below is given the form used to determine strength index:

Individual Strength Record Card

Name:	Louis Whittaker
Age—14-2	Grade—8
Weight—105	
Height—67	
Multiplier—17	
Pull ups—7	—15
Push ups—8	—15
Arm strength	255 pounds
Lift, legs	365 pounds
Lift, back	240 pounds
Grip, left	90 pounds
Grip, right	100 pounds
Lung capacity	198 cubic inches

Strength Index...1250 points

The multiplier is calculated by adding the number of inches in height above 60 to the number of pounds weight divided by 10 (to the nearest 10 pounds). If the boy is under 60 inches tall, the inches under 60 must be subtracted from the body weight, divided by 10. The apparatus used for the testing are the parallel bars for the push ups, the horizontal bar for the pull ups, the wet spirometer for the lung capacity test, the manometer for the grip tests, and the dynamometer for the back and leg tests. The three levels in Strength Index points range between 2000 to 1600—Class C; 1599 to 1200—Class B; 1199 and below—Class A.

In forming teams, three steps are necessary to secure equality of general athletic



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Many of the football articles published last year are applicable to conditions in 1932. Copies of the following are still available: *Football Attack (100 diagrams of plays gleaned from all parts of the country)*—November, 1931.

Spin Offense—*R. E. Hanley, Head Coach, Northwestern October, 1931.*

Forward Pass Fundamentals—Bernie Bierman, Head Coach, Minnesota—October, 1931.

Methods of Teaching Psychological Skills in Football—Milton M. Olander, University of Illinois—November, December, 1931, January, 1932.

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ability between competing teams: first, we see that the total strength indices of competing teams are equal; second, we match the abilities of the individuals; third, we maintain upper and lower limits in strength index points. In football, there were twenty-four teams competing, eight in each level; basketball had sixty teams, with twenty teams in each class. In each level, the teams are divided into two groups, the Greeks and the Trojans. A round-robin tourney is played among each group, and the leading Trojan team plays the leading Greek team for the championship of that level. The games are played during home room period and evenings after school. Each level has a certain day for its play day. Each team elects its own captain, and teacher sponsors are appointed for each classification.

The playing time of football and basketball games is twenty minutes. In case of ties in football, teams are awarded games making the most first downs.

Emblems of the school are awarded to championship teams for each level in football, basketball and track. Awards are made to winners of the tennis and golf tournaments. Each sport has a distinctive letter award. Student managers are appointed for each sport. Their principal duties are handling equipment and running errands. A special program when all athletic awards are made is given on what we term Honor Day.

The success of the above program in physical education would be impossible if it were not for the fact that this department receives the finest co-operation from the administration. We feel that we are an integral part of the school. The equipment and facilities for our work are stimulating, but it is the combined factors that make it possible to carry out our constructive program.

An Intramural Basketball League

*By I. L. Peters,
Stuart, Iowa, Public Schools*

AS THE title indicates, the present article is concerned and will be devoted to the outlining of a plan of intramural basketball for boys as it has been established and is now being used in the Stuart Public Schools.

The great body of trained and experienced directors and teachers of physical education now distributed throughout our public schools of today is confronted with the problem of providing activities for our boys so selected and composed as to make their appeal to interest. The coach is faced with the problem of providing the lad, whom he has been forced to cut from the varsity squad, with a plan whereby the individual may still continue to enter into active competition with his classmates and whereby he may still continue to build himself for that "First

Team" which is naturally the aim and desire of most of our boys.

It is the aim of the physical directors and coaches to develop in the boys a real leadership, with co-ordination of mind and body that will carry over into their junior and senior years and into their adult life. This aim may be realized to a great extent by providing situations of organized team play for the boys which makes an appeal to their interests. I believe we recognize that boys of school age are especially fond of organized competitive forms of advanced recreation such as inter-organization or inter-class competition. The plan which will be outlined provides a wonderful opportunity for the coach to further study the prospective individuals which he may eventually wish to use on his varsity squad.

The Intramural League, as we have it organized, has many advantages other than providing the elements heretofore mentioned. It provides continuous competitive entertainment for each team during the entire basketball season. Each and every contest is equally interesting to the players and to the student fans. The games are closely enough contested to provide plenty of zest and enthusiasm.

The teams are self-organized by leader individuals in the physical training classes, thus insuring an enthusiastic nucleus from which to work. They are practically self-directed, with the organizing leader automatically becoming captain of the team. Each team is privileged to select one of the varsity basketball squad members to act as coach. By this method the particular style of basketball which the high school coach is endeavoring to drill into his candidates is gradually handed down to the intramural teams and is consequently being absorbed by the future varsity candidates.

During the early part of the basketball season an announcement is made stating that any seven boys may organize themselves into one of the league teams. The names of team members are filed at a given time. At a meeting of the captains of the various teams, it is possible to work out a league schedule based on the same principles that are used by any large inter-school conference or league. It is also necessary to adopt certain rules to be followed that will insure a satisfactory working of the league play.

A single, double or triple round-robin plan may be worked out which depends upon the size of the school and the number of teams entered. I believe that it is desirable for each team to play at least twice each week, but I do not believe that games should be of longer than five or six minute quarters.

Since each team is allowed seven players to begin with, the usual requirements for substitution should be adhered to. If enough players of one of the teams are not present at the time the game is scheduled

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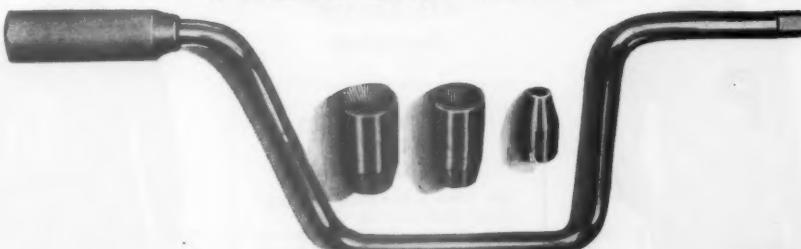
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the game is to be forfeited by the usual 2 to 0 score.

Varsity basketball candidates may referee the contests. Steps should be taken to drill them in the fundamentals as an official, and the rules should be strictly adhered to.

By proper use of the local newspaper and the school paper a great deal of favorable interest and enthusiasm may be motivated. Each week we have an account completely summarizing the games played, scores made and team standing. In addition, we have short articles on individual performance which may be of interest to the entire student body. I find it possible to make use of boys who are interested in athletics, but who have been prohibited from competition as a result of a doctor's examination, by allowing them to handle publicity when games are to be played, scoring, timekeeping, etc.

For the benefit of the physical training instructor, it is required that the captain of each team reports the presence and absence of his team members each time they are scheduled to appear in contest. He also indicates whether or not the member participates. This may be done on mimeographed blanks especially prepared for the purpose.

The matter of awards would necessarily need to be adjusted to meet the needs of each particular school. I believe that a traveling trophy or banner is desirable if the plan is to be followed year after year. The winning team, at the end of the season, may be banqueted and entertained by the other members of the league.

Our experience with the outlined plan leads us to believe that the organization is both popular with the students and fundamentally sound from the educational standpoint.

The outstanding facts in the development and popularity of the organization are as follows:

1. That, following the opening of league competition, new teams are constantly organizing and applying for admission to the organization. (At the present time out of a body of some hundred boys we have but four who are not active members of one of the league teams or the varsity basketball squad.)
2. That the motto, "Athletics for All," has ceased to be a myth and has become a reality.
3. That a high degree of sportsmanship has been developed.
4. That this plan insures competitive activity for all boys, not primarily the few athletes.
5. That it provides a larger scope for social contact.
6. That the number of boys reached under our policy of "Athletics for All" has been increased to a maximum percentage.

The Running High Jump of the Tenth Olympiad

Continued from page 18

The bar was again raised to 6 feet 7 inches, and both men failed to clear. It was still a tie. The bar was then lowered to 6 feet 6 inches and Duncan McNaughton cleared. Robert VanOsdel missed by an eyelash. Both of these young men are classmates at the University of Southern California. Since it seemed necessary that we release our monopoly on this event for the next four years, we are all pleased that it was a man who was so closely related and by the closest possible margin. The event ended in a tie for first among the following: Duncan McNaughton (Canada), first and champion; Robert VanOsdel (U. S. A.), Cornelius Johnson (U. S. A.), and Simon Torbino (Philippines) with a jump of 6 feet 5½ inches. In the jump off, McNaughton won the Olympic Championship.

Symposium on College Athletics

Continued from page 12

though you want them to end differently. So the safest thing to do is to select some sound formation and develop all plays from that as far as possible. One standard formation and a punt formation is about a full season's work for a team of average mentality.

Shun the trick play early in the season. The average quarterback would rather score one touchdown from a trick play than score five touchdowns by straight football. If the trick play scores once, then look out! That same quarterback will use it game after game, particularly when he gets in a tight place and is trying to score. The only legitimate field for the trick play early in the season is for the purpose of distracting the scouts of other teams. The team using it should be told that it is not expected to work, but the scouts will go home and play with the idea of stopping it, wasting time and thought which should be devoted to stopping your straight football. Late in the season, after the team has developed a confidence in its ability to play straight football, the trick play may be developed as a sort of relaxation for the players, but never with the idea that it is a "hope play" for winning a game which would otherwise be lost. Leave the trick plays for the sports-story writers. They must have some way of scoring.

Theory and practice often part ways when it comes to the relation between offense and defense. A defense can at times force an offense to play a certain type of play, but more often the team with a ver-



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The Porterville Course consists of seven lessons covering the rules and their interpretations. Each rule, each section and article thereof will be taken up and discussed.

The student-official will be expected to answer questions on each chapter. These questions will be corrected and returned to him.

After completing the course, the student should be able to pass any officials' examination. Upon satisfactory completion of the course the student-official will be recommended to the officials' association of his city or section.

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satile attack can play to the defense and win by taking advantage of its weaknesses. For example, in planning a forward pass attack, each play should be formulated with the idea of taking advantage of some particular arrangement of the defensive backfield. If the defense, anticipating a rushing game, has the 7-2-2 defense, send three men straight down the field at full speed for a "choice" pass with the expectation that one of the three will be loose for a long toss.

If, on the other hand, the defense uses the 7-1-2-1, then use a shorter pass with the ends running angle runs to the area back of the defensive ends and the backs going into the open space behind the defensive fullback. Any resourceful coach who knows the style of defense used can soon evolve a play which will enable a man to get loose. Forward pass plays are much more quickly learned than those plays which require blocking ahead of the runner. They may even be improvised between halves to meet a special situation.

The same principle may be applied by the offense to the defense in the case of plunging and running plays. The lineman coming through too fast sets up a play through the hole he vacated if he is removed by a side block, or a tackle creeping in too close to stop center rushes opens a chance for an off-tackle gain. The next probable development in football will be an endeavor to spread the defensive line slightly, by means of which the spaces between the defensive linemen will be widened and line plunging made more effective. This should be one of the results of the rule putting a closer restriction upon the use of hands by the defense.

One of the largest problems of the football scholar is to get rid of preconceived notions concerning the game. The football scholar, like the political economist, quickly realizes when he gets into the heat of the game that he has no magic of his own. He distrusts his own conclusions, for he so often sees them trampled in the mud. If he is large-minded enough to keep a sound perspective, he gets back to his diagrams and tries to find out where his thinking is unsound.

Youth is conservative, and the young coach surrounded by the inhibitions of his fellows is particularly susceptible to the influence of his preconceived notions. We advance slowly. Here at Carthage College we were the first team I know of to use the pass known as the forward-lateral, so common in the games of today. And that was about sixteen years after the legalization of the forward pass. Coach football thoughtfully for a while, and you will agree with my conclusion that youth is conservative and age is radical. It is the fight of the youthful football coach not to accept his preconceived notions blindly, but to keep himself free and open-minded, ready to advance the game.

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